



EAV9613606

Easy Altivar ATV310 complete parameters list

ENGLISH

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| Reference menu | Reference mode 402 External reference value 403 Analog input virtual 801 Speed reference 59.11 Internal PID reference 806 PID reference value Monitoring mode 402 External reference value 403 Analog input virtual 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 LI1 to LI4 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 menu F001 Precharge F002 Unknown drive rating F003 Unknown or incompatible power board F004 Internal serial link |
| Monitoring parameter | |
| Drive status | |
| Maintenance menu | |

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| Detected fault codes | 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 F030 Undervoltage F031 Incorrect configuration F032 Invalid configuration F033 AI1 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 (mot. frequency*) 302 Rated Motor Power NCV -5 to NCV +2 (according to drive rating*) 305 Rated motor current (0.25-1.5In) (In*) 204.0 AI1 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 [00] level [01]* transition [02] Forward priority |
| Short menu | |
| Macro | |
| I/O menu | |

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| I/O menu (cont.) | 203 Logic inputs type [00]* positive [01] negative 204- AI1 CONFIGURATION MENU 204.0 AI1 type [5U]* Voltage: 0-5Vdc [10U] Voltage: 0-10Vdc [0A] Current: x-y mA [LIU] Logic inputs 204.1 AI1 current scaling parameter of 0% 0-20mA (4mA*) 204.2 AI1 current scaling parameter of 100% 0-20mA (20mA*) 204.3 AI1F filter 0 s to 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] Underload alarm [22] Overload alarm [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] Underload alarm [22] Overload alarm [123] AI1 alarm 4-20mA [126] Auxiliary pump active 206.1 LO1 status (output active level) [00]* Positive : high activation level [01] Negative : low activation level 207 Application Overload time delay 0 to 100 s (0 s*) 208 Application Overload threshold 70 to 150% of nominal motor current (90%*) 209 Overload fault duration 0 to 6 min (0 min*) 210 Application underload time delay 0 to 100 s (0 s*) 211 Application Underload threshold 20 to 100% of nominal motor current (60%*) 212 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 [139] Output power [140] Motor thermal state [141] Drive thermal state |
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| Motor control menu | 216.1 AOI 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 0.5 to 1 (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 to 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*/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 Profil LI1 to LI4 active Low 315 Switching frequency 2 to 12kHz (4kHz*) 317 Motor noise reduction [00]* No [01] Yes 318 Auto-tuning [00]* No: When factory parameters of standard motors [01] Yes: Launches auto-tuning [02] Done: If 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 403 Analog input virtual 0 to 100% 404 Reverse inhibition [00]* No |
| Control menu | |

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| Control menu (cont.) | [01] Yes 405 Stop key priority [00] No: Stop inactive [01]* Yes: Stop active 406 Channel configuration [01]* Not separate 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 [L1H] LI1 active High [L2H] LI2 active High [L3H] LI3 active High [L4H] LI4 active High [LUH] 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 [L1H] LI1 active High [L2H] LI2 active High [L3H] LI3 active High [L4H] LI4 active High [LUH] LIU active High [L1L] LI1 active low [L2L] LI2 active low [L3L] LI3 active low [L4L] LI4 active low [LUL] 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 [L1L] LI1 active Low to stop [L2L] LI2 active Low to stop [L3L] LI3 active Low to stop [L4L] LI4 active Low to stop [LUL] LIU active Low to stop 502.2 Fast stop assignment [00]* Not assigned [L1L] LI1 active Low to stop [L2L] LI2 active Low to stop [L3L] LI3 active Low to stop [L4L] LI4 active Low to stop [LUL] LIU active Low to stop 502.3 Ramp divider 1 to 10 (4*) 502.4 DC injection assignment [00]* Not assigned [L1H] to [L4H] LI1 to LI4 active High [LUL] LIU active High |
| Function / Ramp menu | |
| Function / Stop configuration menu | |

The (*) indicates a parameter factory setting.

Easy Altivar ATV310 complete parameters list

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| Function | reverse direction | 502.5 DC injection level 0.1 to 1.41ln (0.64 ln*) |
| | | 502.6 IDC injection time for DCLI 0.1 to 30 s (0.5 s*) |
| DC injection function | | 502.7 DC injection level 2 0.1 to 1.41ln (0.64 ln*) |
| | | 502.8 Injection standstill braking time 0.1 to 30 s (0.5 s*) |
| Jog function | | 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 |
| | | 504- AUTO DC INJECTION MENU 504.0 Automatic DC injection [00] Function inactive, no DC injected current. [01]* Time limited DC injection [02] Continuous DC injection |
| Motor potentiometer function | | 504.1 Automatic DC injection current 0 to 120% of nominal motor current (70%*) |
| | | 504.2 Automatic DC injection time 0.1 to 30s (0.5s*) |
| Speed up and down | | 505 Jog assignment [00]* Not assigned [L1H] L1 active High [L2H] L2 active High [L3H] L3 active High [L4H] L4 active High [LUH] LIU active High |
| | | 506- Speed up and down 506.0 Up speed command [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High |
| Maintenance menu | | 506.1 Down speed command [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High |
| | | 506.2 Store [00]* No [01] RAM [02] ROM |
| Current limitation function | | 506.3 Clear 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 |
| | | 506.4 Reactivity of +/- speed around ref. 0 to 100% (0%*) |
| PID Control function | | 507- PRESET SPEED MENU 507.0 2 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 |
| | | 507.1 4 Preset speeds same as 2 Preset speeds |
| Speed limitation function | | 507.2 8 Preset speeds same as 2 Preset speeds |
| | | 507.3 Preset speed 2 0 to 400Hz (10Hz*) |
| Current limitation function | | 507.4 Preset speed 3 0 to 400Hz (15Hz*) |
| | | 507.5 Preset speed 4 0 to 400Hz (20Hz*) |
| Speed limitation function | | 507.6 Preset speed 5 0 to 400Hz (25Hz*) |
| | | 507.7 Preset speed 6 0 to 400Hz (30Hz*) |

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| Jump frequency | | 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*) |
| | | 509- PID MENU 509.0 PID feedback assignment [00]* Not assigned [01] Terminal |
| Current limitation function | | 509.01 PID proportional gain 0.01 to 100 (1*) |
| | | 509.02 PID integral gain 0.01 to 100 (1*) |
| Speed limitation function | | 509.03 PID derivative gain 0.00 to 100.0 (0*) |
| | | 509.04 PID feedback scale factor 0.1 to 100.0 (1.0*) |
| Current limitation function | | 509.05 Activation internal PID reference [00]* No [01] Yes |
| | | 509.06 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 |
| Current limitation function | | 509.07 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 |
| | | 509.08 2 preset PID reference 0 to 100% (25%*) |
| Current limitation function | | 509.09 3 preset PID reference 0 to 100% (50%*) |
| | | 509.10 4 preset PID reference 0 to 100% (75%*) |
| Current limitation function | | 509.11 Internal PID reference 0 to 100% (0%*) |
| | | 509.12 PID reference ramp 0 to 99.9s (0s*) |
| Current limitation function | | 509.13 PID min value reference 0 to 100% (0%*) |
| | | 509.14 PID max value reference 0 to 100% (100%*) |
| Current limitation function | | 509.15 PID predictive speed 0.1 to 400Hz (0.0*) |
| | | 509.16 Acceleration 2 0.0 to 999.9s (5s*) |
| Current limitation function | | 509.17 PID correction reverse [00]* No, no negative speed [01] Yes, no negative speed [02] No, allow negative speed [03] Yes, allow negative speed |
| | | 509.18 PID auto/manual assignment [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High |
| Current limitation function | | 509.19 PID manual reference [00]* No [01] Terminal [183] Integrated jog dial |
| | | 509.20 Low speed operating time 0.1 to 999.9s (0s*) |
| Current limitation function | | 509.21 PID: wake up level 0 to 100% (0%*) |
| | | 509.22 PID: Wake up threshold 0 to 100% (0%*) |

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| PID Control function (cont.) | | 59.21 Sleep offset threshold 0 to High speed (0Hz*) |
| | | 59.22 PID feedback supervision threshold 0 to 100% (0%*) |
| PID Control function (cont.) | | 59.23 PID supervision function time delay 0 to 300s (0s*) |
| | | 59.24 Maximum frequency detection Hysteresis 0 to 50Hz (0Hz*) |
| PID Control function (cont.) | | 59.25 PID feedback supervision [00]* Not assigned [01] Free wheel [04] Fallback speed |
| | | 59.26 Fallback speed 0 to High speed (0Hz*) |
| PID / Pump management function | | 510- PUMP SUB-MENU 207 Overload time delay 0 to 100 s (0 s*) |
| | | 208 Overload threshold 70 to 150% of nominal motor current (90%*) |
| PID / Pump management function | | 209 Overload fault duration 0 to 6 min (0 min*) |
| | | 210 Underload time delay 0 to 100 s (0 s*) |
| PID / Pump management function | | 211 Underload threshold 20 to 120% of nominal motor current (60%*) |
| | | 212 Underload fault duration 0 to 6min (0min*) |
| PID / Pump management function | | 510.0 Selecting operating mode [00]* Single frequency conversion mode [01] Single frequency conversion combined with auxiliary pump mode |
| | | 510.1 Starting frequency of the auxiliary pump 0 to 60Hz (50Hz*) |
| PID / Pump management function | | 510.2 Time delay before starting auxiliary pump 0 to 999.9s (2s*) |
| | | 510.3 Auxiliary pump ramp reaching 0 to 999.9s (2s*) |
| PID / Pump management function | | 510.4 Auxiliary pump stop frequency 0 to 60Hz (0Hz*) |
| | | 510.5 Auxiliary pump stop time delay 0 to 999.9s (2s*) |
| PID / Pump management function | | 510.6 Auxiliary pump stop ramp 0 to 999.9s (2s*) |
| | | 510.7 Zero flow detection period 0 to 20min (0min*) |
| PID / Pump management function | | 510.8 Zero flow detection activation threshold 0 to 400Hz (0Hz*) |
| | | 510.9 Zero flow detection offset 0 to 400Hz (0Hz*) |
| Current limitation function | | 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 |
| | | 511.1 Current limitation 0.25 to 1.5ln (1.5ln*) |
| Current limitation function | | 511.2 Current limitation 2 0.25 to 1.5ln (1.5ln*) |
| | | 512- SPEED LIMIT MENU 512.0 Low speed 0Hz to high speed (0Hz*) |
| Current limitation function | | 512.1 Low speed operating time 0.1 to 999.9s (0s*) |
| | | 512.2 High speed Low speed to maximum frequency (50 or 60Hz according to standard motor frequency*) |

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| Speed limitation function (cont.) | | 512.3 2 High speed assignment [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High |
| | | 512.4 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 or 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 0.2-1.5ln (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 open [01] Detected fault and R1 relay closed |
| | | 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 to 560 VDC (0 V* with protection removed) |
| Speed limitation function (cont.) | | 608 IGBT test [00]* No test [01] Starting test |

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

The (+) indicates a parameter factory setting.