EAV9613603

# ATV310 complete parameters list

ENGLISH

## 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 parameter

**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

## Drive status

**811 Product status**
[00] Drive ready
[01] Drive running
[02] Acceleration
[03] Deceleration
[04] DC injection braking in progress
[05] Current limitaion state
[06] Freewheel stop control or freewheel state
[07] Auto-adatated 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

## Maintenance menu

**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
**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
F005 Invalid industrialization zone

## Detected fault codes

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

## Short menu

**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

## Macro

**COMPLETE MENU**
**100 Macro-configuration**
[00] Start/stop
[04] PID regulation
[09] Speed

## I/O menu

**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

## 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

## I/O menu

**216.1 AOI type**
[10U] Voltage: 0-10 Vdc
[0A]* Current: 0-20 mA
[4A] Current: 4-20 mA
**217 Speed Template**
[00]* Standard
[02] DeadBand

## Motor control menu

**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: U²/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**
0 to 100% (20%*)
**315 Switching frequency**
2 to 12kHz (4kHz*)
**317 Motor noise reduction**
[00]* No
[01] Yes
**318 Auto-tuning**
[00]* No: When factory paramameters 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*)

## Control menu

**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
[01] Yes
**405 Stop key priority**
[00] No: Stop inactive
[01]* Yes: Stop active

## Control menu (cont.)

**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

## Function / Ramp menu

**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

## Function / Stop configuration menu

**502- STOP CONFIGURATION MENU**
**502.0 Type of stop**
[00]* Ramp stop
[01] Fast stop
[02] 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*)

## Function reverse direction

**503 Reverse direction**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High

The (*) indicates a parameter factory setting.



Schneider Electric

# ATV310 complete parameters list

**Maintenance menu**

**Jump frequency**

**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
**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*)

**DC injection function**

**505 Jog assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High

**Jog function**

**506- Speed up and down**
**506.0 Up speed command**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**506.1 Down speed command**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**506.2 Store**
[00]* No
[01] RAM
[02] ROM
**506.3 Clear the function**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 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%*)

**Motor potentiometer function**

**507- PRESET SPEED MENU**
**507.0 2 Preset speeds**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**507.1 4 Preset speeds**
same as 2 Preset speeds
**507.2 8 Preset speeds**
same as 2 Preset speeds
**507.3 Preset speed 2**
0 to 400Hz (10Hz*)
**507.4 Preset speed 3**
0 to 400Hz (15Hz*)
**507.5 Preset speed 4**
0 to 400Hz (20Hz*)
**507.6 Preset speed 5**
0 to 400Hz (25Hz*)
**507.7 Preset speed 6**
0 to 400Hz (30Hz*)
**507.8 Preset speed 7**
0 to 400Hz (35Hz*)
**507.9 Preset speed 8**
0 to 400Hz (40Hz*)
**508 Skip frequency**
0 to 400Hz (0Hz*)

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**PID Control function**

**59- PID MENU**
**59.00 PID feedback assignment**
[00]* Not assigned
[01] Terminal
**59.01 PID proportional gain**
0.01 to 100 (1*)
**59.02 PID integral gain**
0.01 to 100 (1*)
**59.03 PID derivative gain**
0.00 to 100.0 (0*)
**59.04 PID feedback scale factor**
0.1 to 100.0 (1.0*)
**59.05 Activation internal PID reference**
[00]* No
[01] Yes
**59.06 2 preset PID assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**59.07 4 preset PID assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**59.08 2 preset PID reference**
0 to 100% (25%*)
**59.09 3 preset PID reference**
0 to 100% (50%*)
**59.10 4 preset PID reference**
0 to 100% (75%*)
**59.11 Internal PID reference**
0 to 100% (0%*)
**59.12 PID reference ramp**
0 to 100% (0%*)
**59.13 PID min value reference**
0 to 100% (0%*)
**59.14 PID max value reference**
0 to 100% (100%*)
**59.15 PID predictive speed**
0.1 to 400Hz (0.0*)
**501.4 Acceleration 2**
0.0 to 999.9s (5s*)
**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] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**59.18 PID manual reference**
[00]* No
[01] Yes
[183] Integrated jog dial
**512.1 Low speed operating time**
0.1 to 999.9s (0s*)
**59.19 PID: wake up level**
0 to 100% (0%*)
**59.20 PID: Wake up threshold**
0 to 100% (0%*)
**59.21 Sleep offset threshold**
0 to High speed (0Hz*)
**59.22 PID feedback supervision threshold**
0 to 100% (0%*)
**59.23 PID supervision function time delay**
0 to 300s (0s*)

**PID / Pump mangement function**

**59.24 Maximum frequency detection Hysteresis**
0 to 50Hz (0Hz*)
**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 mangement 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%*)
**209 Overload fault duration**
0 to 6 min (0 min*)
**210 Underload time delay**
0 to 100 s (0 s*)
**211 Underload threshold**
20 to 120% of nominal motor current (60%*)
**212 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
**510.1 Starting frequency of the auxiliary pump**
0 to 60Hz (50Hz*)
**510.2 Time delay before starting auxiliary pump**
0 to 999.9s (2s*)
**510.3 Auxiliary pump ramp reaching**
0 to 999.9s (2s*)
**510.4 Auxiliary pump stop frequency**
0 to 60Hz (0Hz*)
**510.5 Auxiliary pump stop time delay**
0 to 999.9s (2s*)
**510.6 Auxiliary pump stop ramp**
0 to 999.9s (2s*)
**510.7 Zero flow detection period**
0 to 20min (0min*)
**510.8 Zero flow detection activation threshold**
0 to 400Hz (0Hz*)
**510.9 Zero flow detection offset**
0 to 400Hz (0Hz*)

**Speed limitation function**

**511- CURRENT LIMITATION MENU**
**511.0 2nd current limitation commutation**
[00]* Not activated
[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
**511.1 Current limitation**
0.25 to 1.5In (1.5In*)
**511.2 Current limitation 2**
0.25 to 1.5In (1.5In*)
**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*)
**512.2 High speed**
Low speed to maximum frequency (50 or 60Hz according to standard motor frequency*)
**512.3 2 High speed assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High

**Speed limitation function (cont.)**

**512.4 4 High speed assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High
**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*)
**512.7 High speed 4**
Low speed to Max frequency (50 or 60Hz*)

**Fan**

**513 Cooling fan control**
[00] Fan runs when drive runs
[01]* Thermal control

**Detected fault reset**

**600- FAULT DETECTION MANAGEMENT MENU**
**601 Detected fault reset assignment**
[00]* Not assigned
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High

**Automatic restart after a etected fault**

**602- AUTOMATIC RESTART MENU**
**602.0 Automatic restart**
[00]* No
[01] Yes
**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

**Catch on the fly**

**603 Catch on the fly**
[00]* Function inactive
[01] Function active

**Motor thermal protection**

**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
**604.2 Overload fault management**
[00] Detected fault ignored
[01]* Free wheel stop
**604.3 Motor thermal state memo**
[00]* thermal state not stored at power off
[01] thermal state is stored at power off

**Phase loss**

**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

**Undervoltage**

**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
**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)

**IGBT**

**608 IGBT test**
[00]* No test
[01] Starting test

**4-20 mA loss**

**609 4-20mA loss Behaviour**
[00]* Detected fault ignored
[01] Freewheel stop

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**Det. fault inhibit.**

**610 Detected fault inhibition assignment**
[00]* Function inactive
[L1H] LI1 active High
[L2H] LI2 active High
[L3H] LI3 active High
[L4H] LI4 active High
[LUH] LIU active High

**Modbus interrup.**

**611 Modbus detected fault management**
[00]* Detected fault ignored
[01] Freewheel stop

**Degr. line**

**612 Degraded line supply operation**
[00]* No
[01] Yes

**Reset power run**

**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

**Communication menu**

**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
**703 Modbus format**
[02] 8o1
[03]* 8E1
[04] 8n1
[05] 8n2
**704 Modbus time out**
0.1 to 30s (10s*)
**705- INPUT SCANNER MENU**
**705.0 Com scanner read adress parameter 1**
0C81*
**705.1 Com scanner read adress parameter 2**
219C*
**705.2 Com scanner read adress parameter 3**
0000
**705.3 Com scanner read adress parameter 4**
0000
**706- OUTPUT SCANNER MENU**
**706.0 Com scanner write adress parameter 1**
2135*
**706.1 Com scanner write adress parameter 2**
219A*
**706.2 Com scanner write adress parameter 3**
0000
**706.3 Com scanner write adress parameter 4**
0000
**707- INPUT SCANNER ACCESS MENU**
**707.0 Com scanner read adress value 1**
0C81*
**707.1 Com scanner read adress value 2**
219C*
**707.2 Com scanner read adress value 3**
0000
**707.3 Com scanner read adress value 4**
0000
**708- OUTPUT SCANNER ACCESS MENU**
**708.0 Com scanner write adress value 1**
CMD value*
**708.1 Com scanner write adress value 2**
LFRD value*
**708.2 Com scanner write adress value 3**
8000
**708.3 Com scanner write adress value 4**
8000

The (*) indicates a parameter factory setting.