



S1B448905

# ATV303 complete parameters list

ENGLISH

Reference menu	<b>Reference mode</b>
	402 External reference value 403 Analog input virtual 801 Speed reference 59.11 Internal PID reference 806 PID reference value
Monitoring parameter	<b>Monitoring mode</b>
	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 <b>Product status</b>
Drive 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
	<b>900- MAINTENANCE MENU</b> 901 State of logic inputs L1 to L14 902 State of the logic output LO1 and relay R1 903 Display of high speed value 904 <b>Drive Power rating</b> 037 075 U15 U22 U30 U40 U55 U75 D11
Maintenance menu	<b>905 Drive voltage rating</b> 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
	<b>F000 Fault menu</b> 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
	<b>Configuration mode</b> 301 <b>Standard motor frequency</b> [00] 50Hz IEC [01] 60Hz NEMA 401 <b>Reference channel 1</b> [01] Terminal [163] Remote display [164] Modbus [183] Integrated display with Jog dial 501.0 <b>Acceleration</b> 0.0 s to 999.9s (3.0s*) 501.1 <b>Deceleration</b> 0.0 s to 999.9s (3.0s*) 512.0 <b>Low speed</b> 0.0Hz to High speed (0Hz*) 512.2 <b>High speed</b> Low speed to max. frequency (mot. frequency*) 302 <b>Rated Motor Power</b> NCV -5 to NCV +2 (according to drive rating*) 305 <b>Rated motor current</b> (0.25-1.5In) (In*) 204.0 <b>AI1 type</b> [5U] 0-5V [10U] 0-10V [0A] x-y mA [LIU] Logic inputs 101 <b>Store customer parameter set</b> [00]* Disabled [01] Stores current configuration 102 <b>Factory / recall customer parameter set</b> [00]* Disabled [02] Customer configuration [64] Factory set configuration
Short menu	<b>COMPLETE MENU</b> 100 <b>Macro-configuration</b> [00] Start/stop [04] PID regulation [09] Speed
	<b>200- I/O MENU</b> 201 <b>Type of control</b> [00]* 2-wire control [01] 3-wire control 202 <b>2-wire type control</b> [00] level [01]* transition [02] Forward priority

I/O menu (cont.)	203 <b>Logic inputs type</b> [00]* positive [01] negative 204- <b>AI1 CONFIGURATION MENU</b> 204.0 <b>AI1 type</b> [5U]* Voltage: 0-5Vdc [10U] Voltage: 0-10Vdc [0A] Current: x-y mA [LIU] Logic inputs 204.1 <b>AI1 current scaling parameter of 0%</b> 0-20mA (4mA*) 204.2 <b>AI1 current scaling parameter of 100%</b> 0-20mA (20mA*) 205 <b>R1 assignment</b> [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- <b>LO1 CONFIGURATION MENU</b> 206.0 <b>LO1 Assignment</b> [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 <b>LO1 status (output active level)</b> [00]* Positive : high activation level [01] Negative : low activation level 207 <b>Application Overload time delay</b> 0 to 100 s (0 s*) 208 <b>Application Overload threshold</b> 70 to 150% of nominal motor current (90%*) 209 <b>Overload fault duration</b> 0 to 6 min (0 min*) 210 <b>Application underload time delay</b> 0 to 100 s (0 s*) 211 <b>Application Underload threshold</b> 20 to 100% of nominal motor current (60%*) 212 <b>Underload fault duration</b> 0 to 6min (0min*) 213 <b>Motor frequency threshold</b> 0 to 400Hz (50Hz* or 60Hz) 214 <b>Motor current threshold</b> 0 to 1.5In (In*) 215 <b>Motor thermal state threshold</b> 0 to 118% (100%*) 216.0 <b>AOI assignment</b> [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 216.1 <b>AOI type</b> [10U] Voltage: 0-10 Vdc [0A]* Current: 0-20 mA [4A] Current: 4-20 mA
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I/O menu	217 <b>Speed Template</b> [00]* Standard [02] DeadBand 300- <b>MOTOR CONTROL MENU</b> 301 <b>Standard motor frequency</b> [00]* 50Hz [01] 60Hz 302 <b>Rated motor power</b> Drive power (-5 to +2) depending on drive rating 303 <b>Rated motor cos phi</b> 0.5 to 1 (depending on drive rating) 304 <b>Rated motor voltage</b> 360 to 460V (380V*) 305 <b>Rated motor current</b> 0.25 to 1.5In (depending on drive rating) 306 <b>Rated motor frequency</b> 10 to 400Hz (50Hz*) 307 <b>Rated motor speed</b> 0 to 24000rpm (depending on drive rating) 308 <b>Maximum frequency</b> 10 to 400Hz (60Hz*) 309 <b>Motor control type</b> [00] Performance: Vector control [03]* Standard: U/F 2 points [06] Pump: U/F 310 <b>IR compensation</b> 25 to 200% (100%*) 311 <b>Slip compensation</b> 0 to 150% (100%*) 312 <b>Frequency loop stability</b> 0 to 100% (20%*) 313 <b>Frequency loop gain</b> 0 to 100% (20%*) 314 <b>Flux Profil</b> 0 to 100% (20%*) 315 <b>Switching frequency</b> 2 to 12kHz (4kHz*) 317 <b>Motor noise reduction</b> [00]* No [01] Yes 318 <b>Auto-tuning</b> [00]* No: When factory parameters of standard motors [01] Yes: Launches auto-tuning [02] Done: If auto-tuning has already been performed 319 <b>Motor parameter choice</b> [00]* Nominal motor power [01] Nominal motor cos phi 320 <b>Vector control 2 points</b> [00]* No [01] Yes 321 <b>Max voltage of constant power</b> 360 to 460V (380V*) 322 <b>Max frequency of constant power</b> 50 to 400Hz (50Hz*)
	400- <b>CONTROL MENU</b> 401 <b>Reference channel 1</b> [01] Terminal [163] Remote display [164] Modbus [183] Integrated display with Jog dial 402 <b>External reference value</b> -400 to 400Hz 403 <b>Analog input virtual</b> 0 to 100% 404 <b>Reverse inhibition</b> [00]* No [01] Yes 405 <b>Stop key priority</b> [00] No: Stop inactive [01]* Yes: Stop active 406 <b>Channel configuration</b> [01]* Not separate mode [02] Separate mode

Control menu (cont.)	407 <b>Command channel 1</b> [01]* Terminals [02] Local [03] Remote display [10] Modbus 408 <b>Forced local assignment</b> [00]* No: Function inactive [L1H] L11 active High [L2H] L12 active High [L3H] L13 active High [L4H] L14 active High [LUH] LIU active High 409 <b>Forced local reference</b> [00]* Not assigned [01] Terminal [163] Remote display [183] Integrated jog dial
	500- <b>FUNCTION MENU</b> 501- <b>RAMP MENU</b> 501.0 <b>Acceleration</b> 0.0 to 999.9s (3.0s*) 501.1 <b>Deceleration</b> 0.0 to 999.9s (3.0s*) 501.2 <b>Ramp shape assignment</b> [00]* Linear [01] S shape [02] U shape 501.3 <b>Ramp switching commutation</b> [00]* Not assigned [L1H] L11 active High [L2H] L12 active High [L3H] L13 active High [L4H] L14 active High [LUH] LIU active High [L1L] L11 active low [L2L] L12 active low [L3L] L13 active low [L4L] L14 active low [LUL] LIU active low 501.4 <b>Acceleration 2</b> 0.0 to 999.9s (5.0s*) 501.5 <b>Deceleration 2</b> 0.0 to 999.9s (5.0s*) 501.6 <b>Decel Ramp Adaptation assignment</b> [00] Function deactivated [01]* Function activated [02] Motor brake
Function / Ramp menu	502- <b>STOP CONFIGURATION MENU</b> 502.0 <b>Type of stop</b> [00]* Ramp stop [01] Fast stop [02] Free wheel stop 502.1 <b>Freewheel stop assignment</b> [00]* Not assigned [L1L] L11 active Low to stop [L2L] L12 active Low to stop [L3L] L13 active Low to stop [L4L] L14 active Low to stop [LUL] LIU active Low to stop 502.2 <b>Fast stop assignment</b> [00]* Not assigned [L1L] L11 active Low to stop [L2L] L12 active Low to stop [L3L] L13 active Low to stop [L4L] L14 active Low to stop [LUL] LIU active Low to stop 502.3 <b>Ramp divider</b> 1 to 10 (4*)
	503 <b>Reverse direction</b> [00]* Not assigned [L1H] L11 active High [L2H] L12 active High [L3H] L13 active High [L4H] L14 active High [LUH] LIU active High

The (\*) indicates a parameter factory setting.

# ATV303 complete parameters list

DC injection function	504- <b>AUTO DC INJECTION MENU</b>
	504.0 <b>Automatic DC injection</b>
	[00] Function inactive, no DC injected current.
	[01]* Time limited DC injection
	[02] Continuous DC injection
	504.1 <b>Automatic DC injection current</b>
	0 to 120% of nominal motor current (70%*)
	504.2 <b>Automatic DC injection time</b>
	0.1 to 30s (0.5s*)
	505 <b>Jog assignment</b>
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
506- <b>Speed up and down</b>	
506.0 <b>Up speed command</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
506.1 <b>Down speed command</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
506.2 <b>Store</b>	
[00]* No	
[01] RAM	
[02] ROM	
506.3 <b>Clear the function</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
[159] Acceleration and deceleration with command active high	
506.4 <b>Reactivity of +/- speed around ref.</b>	
0 to 100% (0%*)	
507- <b>PRESET SPEED MENU</b>	
507.0 <b>2 Preset speeds</b>	
[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 <b>4 Preset speeds</b>	
same as 2 Preset speeds	
507.2 <b>8 Preset speeds</b>	
same as 2 Preset speeds	
507.3 <b>Preset speed 2</b>	
0 to 400Hz (10Hz*)	
507.4 <b>Preset speed 3</b>	
0 to 400Hz (15Hz*)	
507.5 <b>Preset speed 4</b>	
0 to 400Hz (20Hz*)	
507.6 <b>Preset speed 5</b>	
0 to 400Hz (25Hz*)	
507.7 <b>Preset speed 6</b>	
0 to 400Hz (30Hz*)	
507.8 <b>Preset speed 7</b>	
0 to 400Hz (35Hz*)	
507.9 <b>Preset speed 8</b>	
0 to 400Hz (40Hz*)	
508 <b>Skip frequency</b>	
0 to 400Hz (0Hz*)	

Jog function	59- <b>PID MENU</b>
	59.00 <b>PID feedback assignment</b>
	[00]* Not assigned
	[01] Terminal
	59.01 <b>PID proportional gain</b>
	0.01 to 100 (1*)
	59.02 <b>PID integral gain</b>
	0.01 to 100 (1*)
	59.03 <b>PID derivative gain</b>
	0.00 to 100.0 (0*)
59.04 <b>PID feedback scale factor</b>	
0.1 to 100.0 (1.0*)	
59.05 <b>Activation internal PID reference</b>	
[00]* No	
[01] Yes	
59.06 <b>2 preset PID assignment</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
59.07 <b>4 preset PID assignment</b>	
[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 <b>2 preset PID reference</b>	
0 to 100% (25%*)	
59.09 <b>3 preset PID reference</b>	
0 to 100% (50%*)	
59.10 <b>4 preset PID reference</b>	
0 to 100% (75%*)	
59.11 <b>Internal PID reference</b>	
0 to 100% (0%*)	
59.12 <b>PID reference ramp</b>	
0 to 100% (0%*)	
59.13 <b>PID min value reference</b>	
0 to 100% (0%*)	
59.14 <b>PID max value reference</b>	
0 to 100% (100%*)	
59.15 <b>PID predictive speed</b>	
0.1 to 400Hz (0.0*)	
501.4 <b>Acceleration 2</b>	
0.0 to 999.9s (5s*)	
59.16 <b>PID correction reverse</b>	
[00]* No	
[01] Yes	
59.17 <b>PID auto/manual assignment</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
59.18 <b>PID manual reference</b>	
[00]* No	
[01] Yes	
[183] Integrated jog dial	
512.1 <b>Low speed operating time</b>	
0.1 to 999.9s (0s*)	
59.19 <b>PID: wake up level</b>	
0 to 100% (0%*)	
59.20 <b>PID: Wake up threshold</b>	
0 to 100% (0%*)	
59.21 <b>Sleep offset threshold</b>	
0 to High speed (0Hz*)	
59.22 <b>PID feedback supervision threshold</b>	
0 to 100% (0%*)	
59.23 <b>PID supervision function time delay</b>	
0 to 300s (0s*)	
59.24 <b>Maximum frequency detection Hysteresis</b>	
0 to 50Hz (0Hz*)	

Motor potentiometer function	52.25 <b>PID feedback supervision</b>
	[00]* Not assigned
	[01] Free wheel
	[04] Fallback speed
	52.26 <b>Fallback speed</b>
	0 to High speed (0Hz*)
	510- <b>PUMP SUB-MENU</b>
	510.2 <b>Overload time delay</b>
	0 to 100 s (0 s*)
	208 <b>Overload threshold</b>
70 to 150% of nominal motor current (90%*)	
209 <b>Overload fault duration</b>	
0 to 6 min (0 min*)	
210 <b>Underload time delay</b>	
0 to 100 s (0 s*)	
211 <b>Underload threshold</b>	
20 to 120% of nominal motor current (60%*)	
212 <b>Underload fault duration</b>	
0 to 6min (0min*)	
510.0 <b>Selecting operating mode</b>	
[00]* Single frequency conversion mode	
[01] Single frequency conversion combined with auxiliary pump mode	
510.1 <b>Starting frequency of the auxiliary pump</b>	
0 to 60Hz (50Hz*)	
510.2 <b>Time delay before starting auxiliary pump</b>	
0 to 999.9s (2s*)	
510.3 <b>Auxiliary pump ramp reaching</b>	
0 to 999.9s (2s*)	
510.4 <b>Auxiliary pump stop frequency</b>	
0 to 60Hz (0Hz*)	
510.5 <b>Auxiliary pump stop time delay</b>	
0 to 999.9s (2s*)	
510.6 <b>Auxiliary pump stop ramp</b>	
0 to 999.9s (2s*)	
510.7 <b>Zero flow detection period</b>	
0 to 20min (0min*)	
510.8 <b>Zero flow detection activation threshold</b>	
0 to 400Hz (0Hz*)	
510.9 <b>Zero flow detection offset</b>	
0 to 400Hz (0Hz*)	
511- <b>CURRENT LIMITATION MENU</b>	
511.0 <b>2nd current limitation commutation</b>	
[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 <b>Current limitation</b>	
0.25 to 1.5In (1.5In*)	
511.2 <b>Current limitation 2</b>	
0.25 to 1.5In (1.5In*)	
512- <b>SPEED LIMIT MENU</b>	
512.0 <b>Low speed</b>	
0Hz to high speed (0Hz*)	
512.1 <b>Low speed operating time</b>	
0.1 to 999.9s (0s*)	
512.2 <b>High speed</b>	
Low speed to maximum frequency (50 or 60Hz according to standard motor frequency*)	
512.3 <b>2 High speed assignment</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	

Speed limitation function	512.4 <b>4 High speed assignment</b>
	[00]* Not assigned
	[L1H] L1 active High
	[L2H] L2 active High
	[L3H] L3 active High
	[L4H] L4 active High
	[LUH] LIU active High
	512.5 <b>High speed 2</b>
	Low speed to Max frequency (50 or 60Hz*)
	512.6 <b>High speed 3</b>
Low speed to Max frequency (50 or 60Hz*)	
512.7 <b>High speed 4</b>	
Low speed to Max frequency (50 or 60Hz*)	
513 <b>Cooling fan control</b>	
[00] Fan runs when drive runs	
[01]* Thermal control	
600- <b>FAULT DETECTION MANAGEMENT MENU</b>	
601 <b>Detected fault reset assignment</b>	
[00]* Not assigned	
[L1H] L1 active High	
[L2H] L2 active High	
[L3H] L3 active High	
[L4H] L4 active High	
[LUH] LIU active High	
602- <b>AUTOMATIC RESTART MENU</b>	
602.0 <b>Automatic restart</b>	
[00]* No	
[01] Yes	
602.1 <b>Max. automatic restart</b>	
[00]* 5 min	
[01] 10 min	
[02] 30 min	
[03] 1 hour	
[04] 2 hours	
[05] 3 hours	
[06] Infinite	
603 <b>Catch on the fly</b>	
[00]* Function inactive	
[01] Function active	
604- <b>MOTOR THERMAL PROTECTION MENU</b>	
604.0 <b>Motor thermal current</b>	
0.2-1.5In (According to drive rating*)	
604.1 <b>Motor protection type</b>	
[01]* Self-ventilated	
[02] Motor-ventilated	
604.2 <b>Overload fault management</b>	
[00] Detected fault ignored	
[01]* Free wheel stop	
604.3 <b>Motor thermal state memo</b>	
[00]* thermal state not stored at power off	
[01] thermal state is stored at power off	
605 <b>Output Phase loss</b>	
[00] Deactivated	
[01]* Tripping then freewheel stop	
606 <b>Input Phase loss</b>	
[00] Detected fault ignored	
[01]* Detected fault with freewheel stop	
607- <b>UNDERVOLTAGE MENU</b>	
607.0 <b>Undervoltage detected fault management</b>	
[00]* Detected fault and R1 relay open	
[01] Detected fault and R1 relay closed	
607.1 <b>Undervoltage prevention</b>	
[00]* No action (freewheel)	
[02] Stop following an adjustable ramp	
607.2 <b>Undervoltage ramp deceleration time</b>	
0.0 to 10.0s (1.0s*)	
608 <b>IGBT test</b>	
[00]* No test	
[01] Starting test	
609 <b>4-20mA loss Behaviour</b>	
[00]* Detected fault ignored	
[01] Freewheel stop	

Speed limitation function (cont.)	610 <b>Detected fault inhibition assignment</b>
	[00]* Function inactive
	[L1H] L1 active High
	[L2H] L2 active High
	[L3H] L3 active High
	[L4H] L4 active High
	[LUH] LIU active High
	611 <b>Modbus detected fault management</b>
	[00]* Detected fault ignored
	[01] Freewheel stop
612 <b>Degraded line supply operation</b>	
[00]* No	
[01] Yes	
613 <b>Reset power run</b>	
[00]* No	
[03] Reset drive running time	
[04] Reset power-on time	
[07] Reset fan operation time	
614 <b>Reset all previous detected faults via Run key of HMI</b>	
[00]* Deactivated	
[01] Active	
700- <b>COMMUNICATION MENU</b>	
701 <b>Modbus address</b>	
Off to 247 (off*)	
702 <b>Modbus baud rate</b>	
[24] 4.8 kbps	
[28] 9.6 kbps	
[32]* 19.2 kbps	
[36] 38.4 kbps	
703 <b>Modbus format</b>	
[02] 801	
[03] 8E1	
[04] 8n1	
[05] 8n2	
704 <b>Modbus time out</b>	
0.1 to 30s (10s*)	
705- <b>INPUT SCANNER MENU</b>	
705.0 <b>Com scanner read address parameter 1</b>	
0C81*	
705.1 <b>Com scanner read address parameter 2</b>	
219C*	
705.2 <b>Com scanner read address parameter 3</b>	
0000	
705.3 <b>Com scanner read address parameter 4</b>	
0000	
706- <b>OUTPUT SCANNER MENU</b>	
706.0 <b>Com scanner write address parameter 1</b>	
2135*	
706.1 <b>Com scanner write address parameter 2</b>	
219A*	
706.2 <b>Com scanner write address parameter 3</b>	
0000	
706.3 <b>Com scanner write address parameter 4</b>	
0000	
707- <b>INPUT SCANNER ACCESS MENU</b>	
707.0 <b>Com scanner read address value 1</b>	
0C81*	
707.1 <b>Com scanner read address value 2</b>	
219C*	
707.2 <b>Com scanner read address value 3</b>	
0000	
707.3 <b>Com scanner read address value 4</b>	
0000	
708- <b>OUTPUT SCANNER ACCESS MENU</b>	
708.0 <b>Com scanner write address value 1</b>	
CMd value*	
708.1 <b>Com scanner write address value 2</b>	
LFrd value*	
708.2 <b>Com scanner write address value 3</b>	
8000	
708.3 <b>Com scanner write address value 4</b>	
8000	

The (\*) Indicates a parameter factory setting.