

VLT 4000 VT Engineering Data – Parameter Listings



Parameters 000-099

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
001	Language	English		Yes
002	Active Setup	Setup 1		Yes
003	Copying of Setups	No copying		No
004	LCP copy	No copying		No
005	Max. value of user-defined readout	100.00	0 - 999.999,99	Yes
006	Unit for user-defined readout	No unit		Yes
007	Big display readout	Frequency, Hz		Yes
008	Small display readout 1.1	Reference, Unit		Yes
009	Small display readout 1.2	Motor current, A		Yes
010	Small display readout 1.3	Power, kW		Yes
011	Unit of local reference	Hz		Yes
012	Hand start on LCP	Enable		Yes
013	OFF/STOP on LCP	Enable		Yes
014	Auto start on LCP	Enable		Yes
015	Reset on LCP	Enable		Yes
016	Lock for data change	Not locked		Yes
017	Operating state at power-up, local control	Auto restart		Yes

Parameters 100-199

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
100	Configuration	Open loop		No
101	Torque characteristics	Automatic Energy Optimization		No
102	Motor power, P_{MIN}	Depends on the unit	0.25 - 300 kW	No
103	Motor voltage, U_{MIN}	Depends on the unit	200 - 500 V	No
104	Motor frequency, f_{MIN}	50 Hz	24 - 1000 Hz	No
105	Motor current, I_{MIN}	Depends on the unit	0.01 - I_{VLTMAX}	No
106	Rated motor speed, n_{MIN}	Depends on par. 102	100 - 60000 rpm	No
107	Automatic motor adaptation, AMA	Optimization disable		No
108	Start voltage of parallel motors	Depends on par. 103	0.0 - par. 103	Yes
109	Resonance dampening	100%	0 - 500%	Yes
110	High brake-away torque	0.0 sec.	0.0 - 0.5 sec.	Yes
111	Start delay	0.0 sec.	0.0 - 120.0 sec.	Yes
112	Motor preheater	Disable		Yes
113	Motor preheater DC current	50%	0 - 100%	Yes
114	DC braking current	50%	0 - 100%	Yes
115	DC braking time	10.0 sec.	0.0 - 60.0 sec.	Yes
116	DC brake cut-in frequency	OFF	0.0 - par. 202	Yes
117	Motor thermal protection	ETR trip 1		Yes

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Parameters 200-299

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
200	Output frequency range	0 - 120 Hz	0 - 1000 Hz	No
201	Output frequency low limit, f_{MIN}	0.0 Hz	0.0 - f_{MAX}	Yes
202	Output frequency high limit, f_{MAX}	50 Hz	f_{MIN} - par. 200	Yes
203	Reference site	Hand/Auto linked reference		Yes
204	Minimum reference, Ref_{MIN}	0.000	0.000 - par. 100	Yes
205	Maximum reference, Ref_{MAX}	50.000	par. 100 - 999.999.999	Yes
206	Ramp-up time	Depends on the unit	1 - 3600	Yes
207	Ramp-down time	Depends on the unit	1 - 3600	Yes
208	Automatic ramp-up/down	Enable		Yes
209	Jog frequency	10.0 Hz	0.0 - par. 100	Yes
210	Reference type	Sum		Yes
211	Preset reference 1	0.00%	-100.00 - 100.00%	Yes
212	Preset reference 2	0.00%	-100.00 - 100.00%	Yes
213	Preset reference 3	0.00%	-100.00 - 100.00%	Yes
214	Preset reference 4	0.00%	-100.00 - 100.00%	Yes
215	Current limit, I_{LIM}	$1.0 \times I_{VLTN}$ [A]	0.1 - $1.1 \times I_{VLTN}$ [A]	Yes
216	Frequency bypass, bandwidth	0 Hz	0 - 100 Hz	Yes
217	Frequency bypass 1	120 Hz	0.0 - par. 200	Yes
218	Frequency bypass 2	120 Hz	0.0 - par. 200	Yes
219	Frequency bypass 3	120 Hz	0.0 - par. 200	Yes
220	Frequency bypass 4	120 Hz	0.0 - par. 200	Yes
221	Warning: Low current, I_{LOW}	0.0 A	0.0 - par. 222	Yes
222	Warning: High current, I_{HIGH}	I_{VLTMAX}	Par. 221 - I_{VLTMAX}	Yes
223	Warning: Low frequency, f_{LOW}	0.0 Hz	0.0 - par. 224	Yes
224	Warning: High frequency, f_{HIGH}	120.0 Hz	Par. 223 - par. 200/202	Yes
225	Warning: Low reference, Ref_{LOW}	0.0 Hz	-999.999.999 - par. 226	Yes
226	Warning: High reference, Ref_{HIGH}	50.0 Hz	Par. 225 - 999.999.999	Yes
227	Warning: Low feedback, FB_{LOW}	0.000	-999.999.999 - par. 228	Yes
228	Warning: High feedback, FB_{HIGH}	100.000	Par. 227 - 999.999.999	Yes

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Parameters 300-399

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
300	Terminal 16 Digital input	Reset		Yes
301	Terminal 17 Digital input	Freeze output		Yes
302	Terminal 18 Digital input	Start		Yes
303	Terminal 19 Digital input	Reversing		Yes
304	Terminal 27 Digital input	Coasting stop, inverse		Yes
305	Terminal 29 Digital input	Jog		Yes
306	Terminal 32 Digital input	No operation		Yes
307	Terminal 33 Digital input	No operation		Yes
308	Terminal 53, analog input voltage	Reference		Yes
309	Terminal 53, min. scaling	0.0 V	0.0 - 10.0 V	Yes
310	Terminal 53, max. scaling	10.0 V	0.0 - 10.0 V	Yes
311	Terminal 54, analog input current	No operation		Yes
312	Terminal 54, min. scaling	0.0 V	0.0 - 10.0 V	Yes
313	Terminal 54, max. scaling	10.0 V	0.0 - 10.0 V	Yes
314	Terminal 60, analog input current	Reference		Yes
315	Terminal 60, min. scaling	4.0 mA	0.0 - 20.0 mA	Yes
316	Terminal 60, max. scaling	20.0 mA	0.0 - 20.0 mA	Yes
317	Time out	10 sec.	1 - 99 sec.	Yes
318	Function after time out	Off		Yes
319	Terminal 42, output	0 - I _{MAX} - 0-20mA		Yes
320	Terminal 42, output, pulse scaling	5000 Hz	1 - 32000 Hz	Yes
321	Terminal 45, output	0 - f _{MAX} - 0-20 mA		Yes
322	Terminal 45, output, pulse scaling	5000 Hz	1 - 32000 Hz	Yes
323	Relay 1, output function	Alarm		Yes
324	Relay 01, ON delay	0.00 sec.	0 - 600 sec.	Yes
325	Relay 01, OFF delay	0.00 sec.	0 - 600 sec.	Yes
326	Relay 2, output function	Running		Yes
327	Pulse reference, max. frequency	5000 Hz	Depends on input terminal	Yes
328	Pulse feedback, max. frequency	25000 Hz	0 - 65000 Hz	Yes

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Parameters 400-499

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
400	Reset function	Manual reset		Yes
401	Automatic restart time	10 sec.	0 - 600 sec.	Yes
402	Flying start	Enable		Yes
403	Sleep mode timer	Off	0 - 300 sec.	Yes
404	Sleep frequency	0 Hz	I_{MIN} - Par. 405	Yes
405	Wake up frequency	50 Hz	Par. 404 - f_{MAX}	Yes
406	Boost setpoint	100%	1 - 200%	Yes
407	Switching frequency	Depends on the unit	3.0 - 14.0 kHz	Yes
408	Interference reduction method	ASFM		Yes
409	Function in case of no load	Warning		Yes
412	Trip delay overcurrent, I_{LIM}	60 sec	0 - 60 sec.	yes
413	Minimum feedback, FB_{MIN}	0.000	-999.000.000 - FB_{MIN}	Yes
414	Maximum feedback, FB_{MAX}	100.000	FB_{MIN} - 999.999.999	Yes
415	Units relating to closed loop	%		Yes
416	Feedback conversion	Linear		Yes
417	Feedback calculation	Minimum		Yes
418	Setpoint 1	0.000	FB_{MIN} - FB_{MAX}	Yes
419	Setpoint 2	0.000	FB_{MIN} - FB_{MAX}	Yes
420	PID normal/inverse control	Normal		Yes
421	PID anti windup	On		Yes
422	PID start-up frequency	0 Hz	f_{MIN} - f_{MAX}	
423	PID proportional gain	0.01	0.00 - 10.00	Yes
424	PID start-up frequency	Off	0.01 - 9999.00 s (Off)	Yes
425	PID differentiation time	Off	0.0 (Off) - 10.00 sec.	Yes
426	PID differentiator gain limit	5.0	5.0 - 50.0	Yes
427	PID lowpass filter time	0.01	0.01 - 10.00	Yes

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Parameters 500-599

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
500	Protocol	FC protocol		Yes
501	Address	1	Depends on par.500	Yes
502	Baudrate	9600 Baud		Yes
503	Coasting	Logic or		Yes
504	DC-brake	Logic or		Yes
505	Start	Logic or		Yes
506	Direction of rotation	Logic or		Yes
507	Selection of Setup	Logic or		Yes
508	Selection of preset reference	Logic or		Yes
509	Data read-out: Reference%			No
510	Data read-out: Reference unit			No
511	Data read-out: Feedback			No
512	Data read-out: Frequency			No
513	User defined read-out			No
514	Data read-out: Current			No
515	Data read-out: Power, kW			No
516	Data read-out: Power, HP			No
517	Data read-out: Motor voltage			No
518	Data read-out: DC link voltage			No
519	Data read-out: Motor temp.			No
520	Data read-out: VLT temp.			No
521	Data read-out: Digital input			No
522	Data read-out: Terminal 53, analog input			No
523	Data read-out: Terminal 54, analog input			No
524	Data read-out: Terminal 60, analog input			No
525	Data read-out: Pulse reference			No
526	Data read-out: External reference %			No
527	Data read-out: Status word, hex			No
528	Data read-out: Heat sink temperature			No
529	Data read-out: Alarm word, hex			No
530	Data read-out: Control word, hex			No
531	Data read-out: Warning word, hex			No
532	Data read-out: Extended status word, hex			No
533	Display text 1			No
534	Display text 2			No
535	Busfeedback 1			No
536	Busfeedback 2			No
555	Bus time interval	1 sec.	1 - 99 sec.	Yes
556	Bus time interval function	Off		Yes

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Parameters 600-699

Par. #	Parameter Description	Factory Setting	Range	Changes During Operation
600	Operating data: Operating hours			No
601	Operating data: Hours run			No
602	Operating data: kWh counter			No
603	Operating data: No. of cut-ins			No
604	Operating data: No. of overtemps			No
605	Operating data: No. of overvoltages			No
606	Data log: Digital input			No
607	Data log: Control word			No
608	Data log: Status word			No
609	Data log: Reference			No
610	Data log: Feedback			No
611	Data log: Output frequency			No
612	Data log: Output voltage			No
613	Data log: Output current			No
614	Data log: DC link voltage			No
615	Fault log: Error code			No
616	Fault log: Time			No
617	Fault log: Value			No
618	Reset of kWh counter	No reset		Yes
619	Reset of hours-run counter	No reset		Yes
620	Operating mode	Normal function		Yes
621	Nameplate: Unit type			No
622	Nameplate: Power component			No
623	Nameplate: VLT ordering no.			No
624	Nameplate: Software version no.			No
625	Nameplate: LCP identification no.			No
626	Nameplate: Database identification no.			No
627	Nameplate: Power component identification no.			No
628	Nameplate: Application option type			No
629	Nameplate: Application option ordering no.			No
630	Nameplate: Communication option type			No
631	Nameplate: Communication option ordering no.			No