

OTIS
Berlin

Contract Parameters
GCS212MMR

OVFR03B
(Ultra-Drive)

Order No.: 45W280303
Unit No.: 45SFOH56

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Date: 2022-07-27
SCN: AP431400CBC

Drive Control Board Version: **GxA26800PS (DCPB)**
Software Version: **AP431400CBC** (AP431400CBC)
EEPROM base: ---
Motor: **TCA20220AX7**

CONTRACT Parameters (SVT Key Sequence 3-1)

No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Interface Type	0	4	-	1			1 = CAN Type
1.	JIS Function	0	1	0	0			
2.	ARO Type	1	5	1	1			
3.	Motor Type	100	999	-	104			
4.	Duty Speed mm/s	10	16000	-	630			
5.	Rated rpm	1	5000	-	301			Motor rpm when running at Duty Speed
6.	Inertia kg-m2	0.1	20000	-	1.0			Note: consider unit: "kg" (not "g") !
7.	Encoder Type 0/1	0	1	-	0			0=Incremental 1=SIN/COS
8.	Enc termintn 1/2	1	2	2	2			1=single ended 2=double ended
9.	Encoder PPR	1000	10000	-	2048			
10.	Duty Load kg	10	16384	-	630			
11.	AC Main Vrms	10	480	-	400			Not visible for LV-Drive. Use nominal AC mains, typically 400 for Europe.
12.	Load Weigh Type	0	3	-	2			0=None 1=LWB2 via CAN 2=Hitch LW CAN 3=Discrete via CAN
13.	Load Wgh Lvl 1 %	0	120	-	-			Visible only when Load WeighType=3
14.	Load Wgh Lvl 2 %	0	120	-	-			
15.	Load Wgh Lvl 3 %	0	120	-	-			
16.	Load Wgh Lvl 4 %	0	120	-	-			
17.	Load Wgh Lvl 5 %	0	120	-	-			
18.	Balance %	0	77	50	47			Verify mechanical overbalance matches parameter setting.
19.	Roping 1..4	1	4	-	2			Visible only for dedicated Load Weigh Types
20.	Vane Sensor Type	0	99	-	2			
21.	PRS via CAN 0/1	0	1	0	0			
22.	DDP sec	0	45	20	21			
23.	Number of DZ	2	140	-	3			
24.	Bottom DZ	0	20	0	0			
25.	DZ in 1LS	0	5	1	1			For inst. w/o. SVT: Setup at jobsite
26.	LS Pos Recov 0/1	0	1	0	1			
27.	6LS-TYP 0/1	0	1	0	0			Must be identical to TCBC / GECB setting
28.	DBR Mode 0-3	0	3	0	0			
29.	UCM-EN on/off	0	1	1	0			
30.	LowPitCnfg 0/1/2	0	2	0	0			
31.	TwoStepspeed 0/1	0	1	0	0			
32.	SFC InWiring 0-2	0	2	0	0			Not visible for LV-Drive. 0=UIB/DIB/MRO_SC_IN 1=UIB&DIB tied 2=MRO_SC_IN
33.	Smooth Estop 0/1	0	1	0	0			

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ADJUSTMENT Parameters (SVT Key Sequence 3-2)								
No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Car Dir 0/1	0	1	0	1			Setup at jobsite (usually = 1)
1.	Motor Phase 0/1	0	1	0	0			Setup at jobsite
2.	M Cable Leng 0/2	0	2	0	0			Set = 1 for length ≥ 7m
3.	Single Phase 0/1	0	1	0	0			
4.	Start Gain Ot PU	0.1	40	1	1			
5.	Start filt BW PU	0.1	20	1	-			Visible only when Start Gain Ot PU > 1
6.	Start Gain In PU	0.1	20	1	-			
7.	SG Period sec	0.01	2	0.3	-			
8.	SG Ramp Down sec	0.01	2	0.4	-			
9.	End Gn Vel mm/s	0	16000	0	-			
10.	Norm Vel Resp PU	0.1	1.5	1	0.7			
11.	Pretorque Trim %	50	150	100	100			
12.	Pretorq Mod 0/1	0	1	0	0			
13.	Track Error mm/s	0	600	100	100			Visible only for dedicated motor types
14.	No Enc Vthrs PU	0	1.0	0.2	0.2			
15.	No enc flt t sec	0	2.0	0.4	0.4			
16.	Vel Notch1 Hz	0	500	0	159			
17.	Vel Notch2 Hz	0	500	0	159			
18.	Notch Band Hz	0	50	2	50			
19.	VelRate div 0..3	0	3	0	0			Visible only when Encoder Type =0.
20.	Cnv Custom 0/1	0	1	0	0			Not visible for LV-Drive.
21.	Cnv Notch Hz	800	2500	1800	-			Not visible for LV-Drive. Visible only when "Cnv Custom" =1.
22.	Cnv crf Depth	0	30	10	-			
23.	Cnv crf Width	0	2000	300	-			
24.	Cnv BW PU	0.5	1.0	0.8	-			
25.	DC V BW Hz	1	100	50	-			
26.	Cnv L mH	0.01	100	-	-			
27.	Cnv Saturation A	0	1000	0	-			
28.	Cnv L Slope uH/A	0	1000	0	-			
29.	Cnv R Ohm	0.0001	9.9999	-	-			
30.	Ploss Thr pre %	0.0	100	3.0	-			
31.	Ploss Thr idle %	0.0	100	3.0	-			
32.	Ploss Thr run %	0.0	100	18	-			
33.	Ploss Thrs Sng %	0.0	100	30	-			
34.	PLL freq band Hz	0.1	60.0	3.0	-			
35.	PLL freq time ms	0	5000	500	-			
36.	Cnv Vmag Thrs PU	0	5	-	1.05			Not visible for LV-Drive.
37.	Vane Bias(10) mm	7	13	10	10			
38.	Vane Hysteres mm	0	20	0	1.0			
39.	Profile Delay ms	0	10000	0	0			
40.	Relevel Delay ms	0	5000	0	0			
41.	Hover Enable 0/1	0	1	0	0			
42.	HoverRangeTopLdg	0	139	0	-			Visible only when "Hover Enable" = 1.
43.	Hover Min Time s	0	500	30	-			
44.	Hover Fade Out s	0	500	10	-			
45.	Hover delta LW %	1	120	5	-			
46.	Hover Gain PU	1.0	3.0	1.0	-			
47.	Pos Stop Tol mm	0	7	3	3			
48.	Vel Stop mm/sec	0	20	3	5			

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49.	Overload sec	0	40	6	6			Max duration of accel current = Rated Acc I PU x Rated mtr i Arms
50.	Rated mtr i Arms	0	500	=60% rated accel current	7			
51.	Rated Acc i PU	1	5	1.67	1.67			
52.	Inv I Limit %	0	100	100	100			
53.	Cnv I Limit %	0	100	100	100			Not visible for LV-Drive.
54.	SX Pick Time ms	100	2000	200	100			
55.	Pos Corr Lim mm	0.01	50.0	0.05	0.05			
56.	Max Battery I A	0.01	100.0	-	2			
57.	AroMro Delay Sec	10	120	10	10			
58.	MroCT Torque kg	0	500	50	50			
59.	MROwoBrkC Trq kg	0	500	150	150			
60.	Vd out thresh PU	0	1.0	0.9	0.9			
61.	Self Tune 0/1	0	1	0	0			
62.	Vane Length mm	10	1000	-	-			Visible only when Vane Sensor Type=99.
63.	UIS Config 0/1/2	0	2	-	-			
64.	UIS offset mm	0	250	-	-			
65.	UIS NO = 0/NC =1	0	1	-	-			
66.	LV1 config 0/1/2	0	2	-	-			
67.	LV1 offset mm	0	250	-	-			
68.	LV1 NO=0 / NC=1	0	1	-	-			
69.	LV2 config 0/1/2	0	2	-	-			
70.	LV2 offset mm	0	250	-	-			
71.	LV2 NO=0 / NC=1	0	1	-	-			
72.	DIS config 0/1/2	0	2	-	-			
73.	DIS offset mm	0	250	-	-			
74.	DIS NO=0 / NC=1	0	1	-	-			
75.	Custom HwCmp 0/1	0	1	0	0			
76.	Latcy UisDisOn %	0	6000	100	-			Visible only when Custom Hw Comp=1
77.	Latcy UisDisOff%	0	6000	100	-			
78.	Latcy 1/2LV on %	0	6000	100	-			
79.	Latcy 1/2LV off%	0	6000	100	-			
80.	RopeStrtch comp%	0	1000	100	-			
81.	HitchPress comp%	0	1000	100	-			
82.	Duty_kg % of car	0	200	50	-			
83.	PWM dnsft I %	0	200	100	100			
84.	PWM dnsftFreq Hz	0	150	150	150			
85.	HitchLw emptyBOT	0	99999	0				Only visible for Hitch LW, set by LW adjust.
86.	HitchLw emptyTOP	0	99999	0				
87.	HitchLw full BOT	0	99999	0				
88.	HitchLw CaliDone	0	1	0				
89.	Remote Auth min	0	65535	0	0			
90.	SmoothStop Id PU	0	10	2.5	-			Visible only when Smooth Estop 0/1=1

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BRAKE Parameters(SVT Key Sequence 3-3)

No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Brk Cnt Type 0-3	0	3	0	3			Visibility depending on motor type
1.	Brk Sw Type 0-6	0	6	1	4			Visibility depending on motor type
2.	Brk Pick Time ms	0	60000	1500	2500			
3.	Brk Setl Time ms	0	10000	500	500			
4.	Lft Brk Delay ms	0	10000	100	200			
5.	Brk Lftd Dely ms	0	10000	30	200			
6.	Brk ramp up t ms	100	10000	500	100			Visible only for "Brk Cnt Type" = 2 or 3
7.	Brk ramp dn t ms	0	10000	500	400			Visible only for "Brk Cnt Type" = 2 or 3
8.	Brk Pick A	0	10.0	7.0	1.6			Visible only for "Brk Cnt Type" = 2 or 3
9.	Brk Pick %	0	100	85	67			Visible only for "Brk Cnt Type" = 2 or 3 and "Brk Sw Type" <> 4
10.	Brk Hold A	0	7.0	7.0	1.2			Visible only for "Brk Cnt Type" = 2 or 3
11.	Brk Drop %	0	50	10	20			Visible only for "Brk Cnt Type" = 2 or 3
12.	Brk OCT A	0	14.0	12.0	1.9			Visible only for "Brk Cnt Type" = 2 or 3 or for LV-Drive.
13.	Brk R	1.0	50	15	30			Visible only for "Brk Cnt Type" = 3
14.	Brk L	0.1	50	5	1			Visible only for "Brk Cnt Type" = 3

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MACHINE Parameters (SVT Key Sequence 3-4)

These parameters are visible only when "Motor Type" is set to 901 or 902.

No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Mtr Shft Pwr kW	0	400	20	-			Visible only when SelfTune=1.
1.	Rtd Mtr Spd RPM	1	5000	1200	-			
2.	Rtd Mtr Ln-Ln V	100	600	380	-			
3.	Rtd Mtr I Arms	0	600	0	-			
4.	Rtd Mtr Freq Hz	5	60	40	-			
5.	LR Ampl KP/Ki PU	0	0.5	0.2				
6.	LR Ampl RTC PU	0	0.5	0.35	-			
7.	Mtr Lsigma mH	0.1	10	1	-			
8.	Self Tune Config	0	4	0	-			
9.	Low Volt Op 0/1	0	1	-	0			
10.	Geared StrJR 0/1	0	1	0	0			
11.	Number of Poles	2	100	-	-			
12.	Rated Trq Nm	0.1	20000	-	-			
13.	Rated Trq I A	0.1	1000	-	-			
14.	Ld mH	0.01	1000	-	-			
15.	Lq mH	0.01	1000	-	-			
16.	R Ohm	0	30	-	-			
17.	T/A Slope %	0	100	-	-			Visible only for Motor Type = 902 (generic Permanent Magnet motor).
18.	T/A Offset A	0	500	-	-			
19.	Kt Slope 1/kNm	0	15	-	-			
20.	Id Saturation A	0	1000	-	-			
21.	Iq Saturation A	0	1000	-	-			
22.	Ld Slope mH/A	0	30	-	-			
23.	Lq Slope mH/A	0	30	-	-			
24.	Lq0 mH	0.01	1000	-	-			
25.	Lq1 1/mA	0	400	-	-			
26.	Lq2 1/mA^2	0	1000	-	-			
27.	Ld0 mH	0.01	1000	-	-			
28.	Rated Mag I A	0.1	1000	-	-			Visible only for Motor Type = 901 (Induction motor).
29.	Peak Mag I A	0	1000	-	-			
30.	Rtr TimeConst s	0.001	10	-	-			
31.	Max Flux time s	0.1	5	1	1			
32.	Rated Motor rpm	1	5000	-	-			
33.	Mag err thr eDeg	0	40	20	-			Visible only for Motor Type = 902 (generic Permanent Magnet motor).
34.	LRT AC Level PU	0.01	0.5	0.06	0.06			
35.	LRT DC Level PU	0.1	0.5	0.1	0.1			
36.	LRT mot err eDeg	0	10	8	8			
37.	Fld Wkn Lvl %	0	200	100	100			
38.	Fld Wkn BW Hz	0	50	10	10			
39.	Inv Hrmnc On 0/1	0	1	0	0			Visible only for Motor Type = 902.
40.	Inv Hrmnc dS %	-1	1	0	-			Visible only when "Inv Hrmnc On 0/1" = 1
41.	Inv Hrmnc dC %	-1	1	0	-			
42.	Inv Hrmnc qS %	-1	1	0	-			
43.	Inv Hrmnc qC %	-1	1	0	-			

PROFILE Parameters (SVT Key Sequence 3-5)

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No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Insp Speed mm/s	10	630	-	200 (at startup) 300 (after startup)			Lower value required during startup
1.	Nom Speed mm/s	0	16000	-	630			Use Duty Speed.
2.	Min Speed mm/s	0	16000	630	-			Visible only f. LV-Drive.
3.	Min Speed Load %	0	16000	80	-			Visible only f. LV-Drive.
4.	Max Speed Load %	0	110	50	-			Visible only f. LV-Drive.
5.	Spd Drop vMin V	30	70	42.0	-			Visible only f. LV-Drive.
6.	Spd Drop vMax V	30	75	65.5	-			Visible only f. LV-Drive.
7.	Spd Drop iMax %	5	75	58.0	-			Visible only f. LV-Drive.
8.	Accel mm/s ²	25	1200	-	500			
9.	Decel mm/s ²	25	1200	-	500			
10.	Jerk mm/s ³	100	2400	-	800			
11.	Corr Speed mm/s	0	2000	-	630			
12.	Base speed %	50	100	75	75			
13.	Creep Speed mm/s	0	150	0	0			
14.	Creep Length mm	0	600	0	0			
15.	Creep Jerk 0/1	0	1	1	0			
16.	Zero Vel Tim ms	0	2000	500	0			
17.	ETP Spe %DutySpe	50	100	80	80			
18.	ETP2 Spe %Duty	50	100	80	80			
19.	ETP delta %	1	20	5	5			
20.	Buffer/ETSD mm/s	0	16000	1000	630			
21.	Man Load %	0	125	50	50			
22.	UCM Acc Up mm/s ²	100	4000	1200	1200			
23.	UCM Acc Do mm/s ²	100	4000	1200	1200			

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FACTORY Parameters (SVT Key Sequence 3-6) These parameters are visible only when "Factory Password" is set.								
No.	SVT Display	Min	Max	Default	Actual	Rev1	Rev2	Remark
0.	Factory Password	0	32000	-				
1.	DC Bus fscale V	800	1200	1000				Factory adjusted
2.	AC Line fscale V	800	1200	1000				Not visible for LV-Drive. Factory adjusted
3.	Ac/Dc Calibra PU	0	1.5	0				Factory adjusted

- Notes:
- Parameters which are invisible for "Interface Type" = 1 are not listed here.