SECTION 13 - CAR ADJUSTMENT PARAMETERS

The *FUTURA*™ operating system provides a series of adjustment parameters which allow the user to fine tune elevator operation, and control the operation of some devices associated with the elevator. For example, the parameter ACR controls the elevator acceleration rate, while the parameter DOD controls door timing.

PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
ABT	0-65535	0	SEC	**A**ttendant **B**uzzer **T**ime. Duration timer for the attendant buzzer to sound while a hall call is not being serviced.
ACB	0-65535	16	DPP	**B**ottom **AC**cess offset from SLD1 (Slow Down Limit Switch input): On access mode, this parameter value equals the number of DPP counts at which the car will stop when traveling UP from the SLD1 limit switch.
ACF	1-X	1	FL.#	**AC**cess **F**loor when mid-shaft.
ACR	75-300	150	Feet/ min/ sec	**AC**celeration **R**ate: The rate of constant acceleration for the car to top speed. Divide ACR parameter by 60 to convert value into feet-per-second. (multiply ACR by 0.00508 to convert to m/s^2)
ACT	0-65535	0	DPP	**T**op **AC**cess offset from SLU1: On access mode, this is the number of DPP counts at which the car will stop when traveling down from the SLU1 limit switch.
AND	0-10	0	# Car calls	**AN**ti-nuisance **D**umping: Number of Car Calls which must be registered to enable dumping all the car calls when the Anti-Nuisance Load switch is not triggered.
AST	5-180	30	SEC	**A**utomatic **S**ervice **T**ime-out: After this time, car is taken out of group service or hall service.
BAL	0-100	0	%CWT	**BAL**anced load (percent). Set to the percent that the car is counterweighted to obtain balanced load. Set to a value of 45 for 45% counterweighting.
BCD	0-64	16	1/64 SEC	**B**rake **C**ontrol **D**rop delay timer. Controls drop time for Brake Controller (BKC output) after car stops.
BCL	0-64	16	1/64 SEC	**B**rake **C**ontrol **L**ift timer delay. This parameter delays BKC output from energizing BK contactor: **Note:** *Only used on VVVF drives.*
BDD	0-320	16	1/64 SEC	**B**rake **D**rop **D**elay. Time delay after the 2" (5 cm) door zone point is reached to begin reducing the brake voltage to zero volts.
BDT	0-320	16	1/64 SEC	**B**rake **D**rop **T**ime. The rate at which the brake voltage is dropped from the Brake Hold Voltage to zero volts.
BED	1-65535	JOB	NUM.	**B**uilding **E**levator **D**esignation number (Shown on Car Diagnostic screen.)
BHD	0-320	128	1/64 SEC	**B**rake **H**old **D**elay. Time delay before dropping to Hold voltage. During delay time the brake voltage is set to the brake lift voltage.
BHV	0-500	JOB	VOLTS	**B**rake **H**old **V**oltage.
BLD	0-65535 SEC	16	1/64 SEC	**B**rake **L**ift **D**elay: Brake lift delay after a start sequence is initiated.
BLT	0-320	16	1/64 SEC	**B**rake **L**ift **T**ime. Rate in which brake voltage is changed starting from Brake Start Lift voltage to Brake Lift Voltage.

PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
BLV	10-500	JOB	VOLTS	**B**rake **L**ift **V**oltage. This voltage value must be less than 90% of the Brake Maximum Voltage (BMV) parameter.
BMA	1-20	JOB	AMPS	**B**rake **M**aximum **A**mps. This value should match the board's DC current configuration jumper setting.
BMV	20-500	JOB	VOLTS	**B**rake **M**aximum Line **V**oltage. AC line voltage supplied to brake board. Value of this voltage parameter times 0.9 must be > Brake Lift Voltage (BLV parameter).
BRS	0-500	JOB	VOLTS	**B**rake **R**e-level **S**tart lift Voltage. This brake voltage value is immediately output to the brake when a re-level is initiated.
BRT	0-320	4	1/64 SEC	**B**rake **R**e-level lift **T**ime. The rate in which the brake voltage is increased from the Brake Re-level Start voltage to the Brake Re-level Lift Voltage.
BRV	1-500	JOB	VOLTS	**B**rake **R**e-level **V**oltage. Lift voltage during a re-level.
BSL	0-100	JOB	VOLTS	**B**rake **S**tart **L**ift Voltage. This brake voltage value is immediately output to the brake when a run is initiated.
CCD	1-128	3	# CALLS	**C**ar **C**all **D**umping: Number of Car Calls that a car will answer without the Electric Eye (EE input) activated (before canceling the remaining Car Calls).
CCN	1-15	JOB	NUMERIC	**C**ar **C**ommunications **N**umber. This parameter identifies the car for Car To Group communications.
CDH	1000-65535	1000	DPP	**C**ounter-weight **D**erailment **H**igh collision zone: The Counter-weight derailment collision zone must be established at the job site. When traveling up in inspection mode, the CDL parameter (Counter-weight Derailment Low) point is when the Top of the Car meets the bottom of the counter-weight. The CDH point is when the Bottom of the Car meets the Top of the counter-weight. These two points must be established and the Digital Position Count (DPC or DPP) must be entered with the CDL and CDH parameters. The CDH point can be approximated by measuring the total length of the Car and the Counter-weight. This length can then be translated into Digital Position Count (or DPP). This length Value can be added to CDL in order to determine the CDH point.
CDL	1000-65535	1000	DPP	**C**ounter-weight **D**erailment **L**ow collision zone. Refer to CDH parameter for definition.
CDT	16-200	46	1/16 SEC	**D**oor Open (Standing) Time (1 to 12.5 seconds) for a **C**ar Call Stop (no hall calls).

CIT	0-65535	48	SYS TIME	**C**PU **I**nterrupt **T**est. Individual bits are set to display system timing.
				BITS
				   0 - Real time clock interrupt
				   1 - Sequence clock interrupt
				   2 - Group to Car communications timer

CKT	0-128	80	1/16 SEC	**C**oded Call **K**eypad entry **T**ime (Use with optional keypad security) Entry time limit to press the four push-button codes required during security mode. If this time elapses without completing the code, process is aborted & you must restart.
CS1	0-65535			**C**ontrol **S**tatus **W**ord (Car) **1** (See Section 14)
CS2	0-65535			**C**ontrol **S**tatus **W**ord (Car) **2** (See Section 14)
CS3	0-65535			**C**ontrol **S**tatus **W**ord (Car) **3** (See Section 14)
CS4	0-65535			**C**ontrol **S**tatus **W**ord (Car) **4** (See Section 14)
CS5	0-65535			**C**ontrol **S**tatus **W**ord (Car) **5** (See Section 14)

PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
CS6	0-65535			**C**ontrol **S**tatus **W**ord (Car) **6** (See Section 14)
CS7	0-65535			**C**ontrol **S**tatus **W**ord (Car) **7** (See Section 14)
CS8	0-65535			**C**ontrol **S**tatus **W**ord (Car) **8** (See Section 14)
CSW	0-65535			**C**ontrol **S**tatus **W**ord (Car) **0** (See Section 14)
DCT	1-128	10	1/16 SEC	**D**rive Run **C**ontrol **T**ime: Time in which the drive stays energized after the car stops at the floor.(some jobs only)
DCC	0-20	6	DOOR CYCLES	**D**oor **C**ycle Protection **C**ounter: Number of time the Doors cycle without getting the Door close limit or the Door locks.
DCP	5-20	12	SEC	**D**oor **C**lose **P**rotective time: The amount of time the doors are given to close before taken out of service on Door Protect.
DDT	0-80	8	1/16 SEC	**D**oor Open **T**ime after activation of **D**OB (Door Open Buzzer) input.
DER	70-300	107	Feet/ min/ sec	**DE**celeration **R**ate: The rate of Constant Deceleration of the car to the transfer to leveling. Divide DER by 60 to convert to feet per second. (or multiply DER by 0.00508 to convert to m/s^2).
DHT	0-64	15	1/16 SEC	**D**oor **H**old **T**ime: Delay time before high speed door opening. Only used on Dover OHS door operator circuits.
DIT	0-16	1	1/16 SEC	**D**oor **I**nterlock **T**ime: Time delay between switching from door close to door open.
DLR	0-65535	SCAN	DPP	**D**own **L**imit position count **R**eference: The position (p) associated with the limit (n) -- (n) must be entered and has a range of 1 through 5; (p) is the absolute position in DPP of the limit (n). The value of (p) must increase at the bottom floor with (n=1) to (n=5), and for the top floor with (n=5) to (n=1). Note the Up limit (1) is further away from the bottom floor than the Up limit (5).
DMD	Calculated			**D**igital **M**ultiplier for **D**own direction. **NON-Serial Interfaced Drives Only.** The top speed can also be individually fine tuned. The programmed value for 'DMD' is (512,000 /Top-Speed for 12 bit DAC) or 1024 for a 500 fpm job. The adjustment range is +/- 24 bits from this calculated value. For a 16 bit DAC, the programmed value for 'DMD' is (4,096,000/Top-Speed) or 8192 for a 500 fpm job and a range of +/- 196 bits from the calculated value.
DMU	Calculated			**D**igital **M**ultiplier for Up direction. **NON-Serial Interfaced Drives Only.** The top speed can also be individually fine tuned. The programmed value for 'DMU' is: (512,000 /Top-Speed for 12 bit DAC) or 1024 for a 500 fpm job. The adjustment range is +/- 24 bits from this calculated value. For a 16 bit DAC, the programmed value for 'DMU' is (4,096,000/Top-Speed) or 8192 for a 500 fpm job and a range of +/- 196 bits from the calculated value.
DOD	0-32	12	1/16 SEC	**D**oor **O**pen **D**elay time: Only used on OTIS 6970 operators
DOH	0-360	15	SEC	Extra **D**oor **O**pen button **H**old time: Only used with Door Hold buttons.

PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
DOP	5-20	12	SEC	**D**oor **O**pen **P**rotective time: Amount of time allowed to open the doors before taken out of service on Door Protect.
DOT	0-60	15	SEC	**D**oor **O**pen Button **T**ime-out: Maximum amount of time doors are allowed to remain open from the Door open button input.
DPD	0-60	0	DPP	**D**igital **P**osition A**D**justment: DPP (Digital Position Pulse) adjustment at the 12 inch (30 cm) and at the 6 inch (15 cm) leveling zone. If there is an error from the DPP at the 12" or at the 6" target, DPD parameter is the correction adjustment. If no correction is desired, such as during set-up, set DPD to zero. (Some Jobs Only)
DPF	160-1200	JOB	DPP	**D**pp **P**er **F**oot (dpp x 10). The number of dpp counts per foot that the controller is expecting to count. Set to 320 for 32.0 dpp per foot on standard jobs.
DPL	0-120	32	DPP	**D**igital **P**osition at 12 inch **L**eveling: Digital Position is calculated from floor position reference that should be at the 12 inch (30 cm) target. It is normally set to 31 or 32. (12" / 0.375") = 32 (or 30 cm/ 0.95 cm)
DPZ	0-60	15	DPP	**D**igital **P**osition at 6 inch **Z**one: Digital position, calculated from floor position reference, that should be at the 6 inch (15 cm) target. It is normally set to 15 or 16. (6"/ 0.375") = 16 (or 15 cm/ 0.95 cm)
DRT	1-48	1	1/16 SEC	**D**eceleration **R**oll **T**ime: Transition Time necessary (from top speed) to engage constant deceleration mode.
DRV	0-80	0	SEC	**D**oor **ReV**ersal (Optional) used with a Door Reversal Limit switch and operates at 1/2 the Door Reversal time. Prevents the door from fully opening during Electric Eye (EE input) reopening when the DRV parameter time expires. The doors will continue to operate until Door Open Limit (DOL) input deactivated.
DTA	8-270	20	DPP	**D**eceleration **TA**rget (DPP Count): This is the distance form the floor level that deceleration speed reference is calculated.
DZD	2008-2088	2048	Number	**D**igital **Z**ero offset for **D**own direction: True zero speed is 2048. To compensate for low velocity error (leveling speed), zero offset can be adjusted by ± 40 bits (Some Jobs Only)
DZU	2008-2088	2048	Number	**D**igital **Z**ero offset for **U**p direction: True zero speed is 2048. To compensate for low velocity error (leveling speed), zero offset can be adjusted by ± 40 bits (Some Jobs Only)
DZO	CALCULATED			**D**igital **Z**ero **O**ffset. **NON-Serial Interfaced Drives Only.** True zero speed is 2048 for a 12 bit DAC and 32768 for a 16 bit DAC. To compensate for low velocity error (leveling speed), the zero offset can be adjusted by +/- 40 bits OR +/- 640 bits for 12 and 16 bit DACs respectively.
EDR	0-65535	0	DPPs	Distance in DPPs that the Down Emergency Terminal Switch opens.

EDS	Total Number of Landings			**E**mergency **D**ispatch floor **S**etting: If car communication is lost with dispatcher, car will stop at floors set with this command. **Setup in the Terminal mode of Wizard only. Note that the direction in which stops are made can also be set. When prompted, answer `Y' or `N' if a stop is desired for that floor, and `U', `D' or `B' for Up, Down or Both Up and Down respectively, for the direction of stop**.
EPF	1- # FLs	1	FLOOR #	**E**mergency **P**ower recall **F**loor: The default recall floor for automatic emergency power sequence.
EMF	0-70	1	FLOOR #	**E**mergency Service **F**loor. This is used for emergency medical technician service (**EMT**) operation.
ESV	0-65535	JOB	FPM	**E**mergency **S**lowdown **V**elocity: Maximum speed reference output at the (n) th slowdown limit switch. If car velocity exceeds limit velocity, speed reference will be clamped to ESV parameter setting.
ETV	0-65535	JOB	FPM	**E**mergency **T**erminal slowdown **V**elocity: Maximum velocity allowed at ETS limit switch.
EUR	0-65535	0	DPPs	Distance in DPPs that the UP Emergency Terminal Switch opens.
FAL	1- # FLs	2	FLOOR #	**F**ire Recall **A**lternate **F**loor: The alternate floor to which cars recall when main default fire floor sensors are activated (See FIR param).
FBC	0-400	30	AMPS	**F**ield **B**oard **C**urrent rating. Amperage for which the motor field board is jumpered.
FBT	1-65535	1	1/64 SEC	**F**ire **B**ypass **T**imer for fire GSA standard.
FCP	1-Top Landing	SCAN	Floor DPP	**F**loor position **C**ount **P**reset: This value equals the DPP position associated with each floor. ULR, DLR and FCP parameters are normally set during auto-setup.
FDZ	1-32	5	DPP	**F**loor **D**ead **Z**one: The number of counts the car must go out of dead level to cause the car to re-level. (Some Jobs Only)
FEV	0-2000	0	FPM	**F**eed forward **E**nd **V**elocity. When the car is slowing down and the car velocity is less than this parameter value, the controller will signal the drive to remove the speed reference feed forward. The drive must be setup for this feature and CS9 BIT 2 must also be set in the controller.
FIR	1- # FLs	1	FLOOR #	**FIR**e Recall Floor: The main fire floor default for phase 1 recall mode.
FLV (MG Only)	0-667	290	VOLTS	**F**ield **L**ine **V**oltage: The nominal single phase AC line voltage that is input to the field power circuit.
FRC	1-8	3	RESETS	**F**ault **R**etry **C**ount. The number of times the controller will try to recover from a motion fault and return to automatic service before shutting down.
FSD	0-6	0	1/64 SEC	**F**inal **S**top **D**amping. Velocity Damping during the final stop. The damping time represents the number of samples that are averaged every 1/64 second. On final stop, the demand velocity is changed from the leveling velocity to zero instantly. Having a damping of 8 would cause the velocity to

				slope down from the leveling velocity to zero in 1/8 second (8/64).
FSR (MG Only)	0-128	8	1/16 SEC	**F**ield **S**trength **R**ate. Rate at which Weak Field Voltage (WFV) parameter increased to Run Field Voltage (RFV) parameter.
FSS (MG Only)	10-2500	2000	FPM	**F**ield **S**trength **S**peed: The car speed (fpm) at which the field regulator begins to strengthen the motor field voltage during deceleration.
FTK	0-192	2	Number	**F**lat **T**op travel **C**onstant: Value used in the calculation of "roundness" of the speed reference (curve) during transition form acceleration to deceleration.
FWR (MG Only)	0-128	8	1/16 SEC	**F**ield **W**eaken **R**ate: The time in which Motor Field Voltage will decrease from Run (full) Field Voltage (RFV) to Weak Field Voltage (WFV) parameter value.
FWS (MG Only)	10-2500	2000	FPM	**F**ield **W**eakening **S**peed: The car speed (fpm) at which the field regulator begins to weaken the motor field voltage during acceleration.
GCT	0-32	12	1/16 SEC	**G**ong **C**ycle **T**ime: Total On & Off time for the Down Lantern signal (1/16 sec).
GDB	4-64	4	1/64 SEC	**G**ate and lock **D**e**B**ounce time: Time to debounce the gate and lock signals to prevent a false start caused by the gate or lock bouncing.
GLV	0-200	160	FPM	**G**ate and **L**ock **V**elocity limit. Maximum car velocity allowed by VFC board when GL1 input is deactivated.
GOT	0-32	7	1/16 SEC	**G**ong **O**ff **T**ime: On time = GCT - GOT; Off time = GOT
GP1	0-65535 (Software Specific)			**G**eneral **P**urpose parameter
GP2	0-65535 (Software Specific)			**G**eneral **P**urpose parameter
GP4	0-65535 (Software Specific)			**G**eneral **P**urpose parameter
GP5	0-65535 (Software Specific)			**G**eneral **P**urpose parameter
GRT	20-360	180	SEC	**G**enerator **R**un **T**ime: This is time period that Motor Generator (MG) will be ON after the last call.
HBT	0-32	8	1/16 SEC	**H**andicap **B**uzzer **T**ime (HBZ output) Floor Passing Tone. OnTime (pulse function of Handicap Buzzer)
HDT	0-60	15	SEC	Car **H**oming **D**oor open **T**ime
HLD	0-60	0	SEC	**H**all **L**antern **D**elay: Delay from slowdown initiation to send lantern output signal (ULT & DLT parameters).
HM1	1- # FLs	1	FLOOR #	Car **H**o**M**ing floor **designation 1**: A maximum of four (4) floors can be designated for Homing. The HM1 through HM4 parameters match the HM1 through HM4 input names. The floor designation does not have to be sequential.
HM2	1- # FLs	1	FLOOR #	Car **H**o**M**ing floor **designation 2**
HM3	1- # FLs	1	FLOOR #	Car **H**o**M**ing floor **designation 3**
HM4	1- # FLs	1	FLOOR #	Car **H**o**M**ing floor **designation 4**
HTT	0-65535	35	FLOOR #	**H**igh Speed **T**ravel **T**imer: Maximum time the car is allowed to run at high speed.
IFT	0-301	15	SEC	**I**ndependent to **F**ire **T**ime: Time system takes to override independent service during Fire Phase I operation.
IRV	0-150	150	FPM	**I**nspection **R**un **V**elocity limit. VFC board velocity limit when car is running on inspection mode.
IVE	0-100	35	FPM	**I**nspection **VE**locity: The Inspection velocity is set at 50 FPM (0.25 m/s) when the controller is shipped.
LBY	1- # FLs	1	FLOOR #	**L**ob**BY** Floor: Default recall floor during regular zoning services.

LDT	32-200	48	1/16 sec	**L**ong **D**oor Open (Standing) **T**ime (2 to 12.5 seconds) for a hall call.
LFT	0-600	60	sec	**L**ight and **F**an **T**ime: Special time out (in seconds) to turn off lights and fan inside car when car is parked. (Optional. The normal time is the same as GRT)
LIC	16-25	20	msec	**L**ow **I**ntensity **C**ycle time (msec). Used to pulse the car call lights so they glow slightly while the call is not selected. Once the call is energized, the car call light turns on bright. This parameter controls the total on-off time (how fast the car call light is pulsed). A cycle time set to 16 would be 62.5 Hz.
LIO	2-9	4	msec	**L**ow **I**ntensity **O**n time (msec). The amount of time that car call light is on during each cycle time. If LIC is set to 16 milliseconds and LIO is set to 4 milliseconds, then the light will be pulsed with a 25% duty cycle.
LND	0-65535	0	1/16 sec	**L**ocal **N**ext-Up **D**oor time: Only used for simplex car when Lobby Recall feature enabled
LPE	1-65535	50	DPP	Terminal **L**imit switch **P**osition **E**rror: Position error that will result in an emergency slow-down. When car approaches a terminal landing, the instantaneous position when the limit switch opens is compared with the Limit Position Reference (see ULR and DLR parameters). If this differential value is larger than LPE parameter values, the car will go into emergency slowdown.
LTR	0-1000	300	Fpm/s	Linear Time Rate (feet/min/sec). Maximum change in demand velocity while the SM contactor is energized.
LVE	1-20	7	fpm	**L**eveling **VE**locity (feet per minute).
LWT	0-32	0	1/16 sec	**L**oad **W**eighing de-bounce. The number of samples that are averaged each 1/16 second from the load weigher input. A value of 16 would give 16 samples continuously averaged over 1 second.
MAR	75-300	150	Fpm/s	**A**cceleration **R**ate <u>when using</u> **MMS** parameter for <u>setting top speed</u>. (MAR then replaces ACR parameter for setting Acceleration Rate).
MBT	0-65535	1	sec	**M**otor **B**lower **T**imer. Drop out timer for motor blower output.
MCT	4-48	18	1/16 SEC	**M**aster contactor **C**ontrol **T**imer. Delays the drop of MCC output. MCC can shorten the RC drop out time of the MC contactor but cannot energize MC *must be greater than SCT*
MDR	27-300	107	Fpm/s	**D**eceleration **R**ate <u>when using</u> **MMS** parameter for <u>setting top speed</u> (MDR then replaces DER parameter for setting Deceleration Rate).
MDT	8-270	20	DPP	**D**eceleration **T**arget <u>when using</u> **MMS** parameter for <u>setting top speed</u> (MDT then replaces DTA parameter for setting Deceleration Target).
MFC	0-400	30	1/10 amp	**M**inimum **F**ield **C**urrent. The minimum current required for the motor field board to detect that there is no field loss. This parameter is set in 1/10 amp increments.
MLV	0-180	160	Fpm	**M**aximum **L**evel **V**elocity: When leveling, maximum velocity at which the car can run with doors open.

MMS	0 - top speed	Top speed	Fpm	**M**aximu**M** Car **S**peed. Sets top speed of car. Only functional when bit 5 on Control Status Word 7 (CS7) is set. **Note:** *IF MMS IS USED*, then the following parameters must be substituted also: Use MAR vs. ACR; Use MDR vs. DER; Use MDT vs. DTA; Use MMS vs. SST; Use MTL vs. TLM.
MSS	1-96	24	Fpm/s^2	**S**tart **R**oll **R**ate into acceleration using **M**MS operation.
MRT	0-65535	45		**M**aximum **R**un **T**imer: Maximum time the car is allowed to run per trip.
MRV	0-80	60	Fpm	**M**aximum **R**e-level **V**elocity: Maximum velocity the car can run with the doors open when re-leveling.
MTL	10-300	25	DPP	**T**ransfer to **L**eveling mode <u>when using **M**MS parameter for setting top speed</u> (MTL then replaces TLM parameter for setting Transfer to Leveling Mode)
MVD	0-11	6	1/64 sec	**M**inimum **V**elocity **D**amping Time period: Minimum time value for filtering out step value in the speed reference. The filtering time begins decreasing from VDT parameter value to MVD value when the speed reference is in deceleration mode.
NCF	0-12	0	Num	**N**umber of **C**oded calls per **F**loor (Use with optional keypad security) Number of codes available per floor for keypad security. This number (*n) multiplied by the number of floors +1 must be less than the maximum of 300 code storage allocation. **Note:** If this value is changed, all new codes must be re-entered.
NDT	5-120	15	sec	**N**udging **D**oor **T**ime
OFC	0-65335	0	N/A	Parameter to select between FUTURA Overlay or regular FUTURA. For example, if there is a 6 car group, cars 1-3 are Futura Overlay and cars 4-6 are regular Futura. **Therefore, we can set OFC = 000 0111 (Binary) = 07H (Hexadecimal)**
OST	0-65535	0	1/16 sec	Overlay Slowdown Timer. Used to control NS output.
PDT	0-128	0	1/64 sec	**P**reconditioning **D**elay **T**ime. Used for both torque compensation and preconditioning. With torque compensation, this is the amount of time the torque compensation value is held for the drive. With preconditioning, this is the time delay before the speed reference soft start begins. The preconditioning offset of the speed reference starts immediately during the preconditioning delay time.
PEK	0-96	Calculated	Number	**PE**rformance **K**onstant: Drive system value calculated during acceleration to optimize car flight time. PEK enabled when maximum car velocity not reached. Raising this value will initiate earlier slowdown.
PPS	0-128	0	1/64 sec	**P**reconditioning **P**hase-out **S**tart time. Delay time before starting the preconditioning speed reference offset.
PPT	0-196	0	1/64 sec	**P**reconditioning **P**hase-out **T**ime. The duration to fade out the preconditioning speed reference offset.
RFV (MG Only)	1-288	120	volts	**R**ated **F**ield **V**oltage: This is the Rated Field Voltage per the motor nameplate.
RSV	0-50	0	FPM	**R**e-level **S**tart **V**elocity.
RVE	1-24	9	FPM	**R**e-leveling **VE**locity (feet per minute)

RVT	8-100	20	FPM	**R**oll **V**elocity for **T**op speed (feet per minute): Velocity at which the transition from acceleration mode to flat top (top speed) begins, e.g. for RVT=25, the transition will start at 325 FPM for a rated 350 FPM car. (Where 200 FPM is about 1 m/s)
SCT	2-44	14	1/16 sec	**S**ystem Master **C**ontrol **T**imer. Delay timer for SMC output that controls the SM contactor. This timer uses increments of 1/16 second to delay SMC input. ***must be less than MCT***
SDT	4-80	8	1/16 sec	**S**hort **D**oor **T**ime (0.5 to 5 seconds) after Electric Eye (EE input) or Safety Edge (SE input) activation
SFV (MG Only)	10-500	60	VOLTS	**S**tandby **F**ield **V**oltage. Motor field voltage maintained when car not running.
SPC	0-20	6	cycles	**S**tart Sequence **P**rotection **C**ounter: Normally adjusted for 6 cycles to try starting motion. Refer to Error code 18.
SST	0-96	24	1/64 SEC	**S**oft **S**tart **T**ime (1/64 of a second): Time period needed to attain rated acceleration from zero speed (ACR parameter).
SSD	2-64	2	1/16 SEC	**S**top **S**equence **D**elay (1/16 second). Minimum time required for the car to stop and test for BK, SM and MC contacts to drop out before attempting another run.
SSV	0-36	0	FPM	**S**oft **S**tart **V**elocity (fpm). This parameter offsets the initial starting velocity. Typically set to 0. This parameter does not account for load changes in the car.
TDF	0-16	8	1/16 SEC	**T**ime **D**amping before **F**ault: Fault damping time causes the car to shut-down when an out of sequence Tach signal or an out of sequence direction occurs. The greater the number, the more fault detection time necessary to cause the car to shutdown. (See Control Status Word Bit settings CS2 and CS3 - p.8-20,21)
TDT	0-7	3		**T**ach **D**amping **T**ime (from Top of Car Transducer): Digital tach damping time period. (Filtering)
TFD	1-300	1	Number	**T**op speed **F**lat top travel **D**istance: Similar to FTK parameter but used only when Top speed is reached.
TLM	0-300	25	DPP	**T**ransfer to **L**eveling **M**ode (DPP): Distance from floor level at which the computation changes from Deceleration to Leveling mode. The ratio between the TLM and DTA parameters determines the slope at which the car will level. **NOTE: The leveling mode does not refer to the leveling operation. In this mode the velocity is directly proportional to the distance remaining from floor. TLM must be the larger value.**
TLV	0-30	5	DPP	**T**ransfer to **L**eveling **V**ane (DPP): Distance from floor level at which the constant leveling velocity takes effect. **NOTE:** When car enters the 2 inch Leveling Zone (5 cm), a constant leveling velocity is introduced.
TRC	0-10,000	0		**T**o**R**que **C**ompensation (units). For drive torque compensation, with 100% load, a value of 10,000 will dictate 100% motor torque. For speed reference preconditioning, with 100% load, a value of 10,000 will dictate a 10% offset in the speed reference.

TSV	1-65535	JOB	FPM	**T**erminal **S**lowdown limit **V**elocity: Maximum velocity reference (v) at the (n)[th] terminal slowdown limit switch. If the car velocity exceeds the Limit velocity, the computer will initiate an emergency slow-down. (n) must be entered and has a range of 1 through 5; (v) is the velocity associated with the terminal limit (n). The value of (v) must be increasing with (n=1) to (n=5).
TZO	2008-2088 32128-33408			**T**orque **Z**ero **O**ffset. DAC offset for an analog torque compensation output. True zero is set to 2048 for a 12 bit DAC and 32768 for a 16 bit DAC. This parameter allows a +/- 40 bit OR +/- 640 bit offset to compensate for a voltage offset error in the analog voltage amplifier.
ULR	1-65535	JOB	DPP	**U**p **L**imit position count **R**eference: The position (p) associated with the limit (n): (n) must be entered and has a range of 1 through 5; (p) is the absolute position in DPP of the limit (n). The value of (p) must increase at the bottom floor with (n=1) to (n=5), and for the top floor with (n=5) to (n=1). Note the Up limit (1) is further away from the bottom floor than the Up limit (5).
VDD	0-24	8	1/64 sec	**V**elocity **D**amping **D**ecrement. During deceleration, the VDT filtering time will decrement by the VDD value until the filtering time has reached the MVD parameter value.
VDF	0-20	16	1/16 sec	**V**elocity error for **D**rive **F**ault: Value of fault filtering or damping time causing the car to shut-down via panic motion fault when the velocity error is excessive. The greater the number, the more time is necessary to detect the fault causing the car shutdown. (See CS2, bits 2, 3 - p. 8-20, 21)
VDT	4-31	12	1/64 sec	**V**elocity **D**amping **T**ime Period: The filtering or damping time period needed to remove any step values introduced during speed reference calculations.
VEE	50-350	150	FPM	**V**elocity **E**rror for **E**mergency slow-down: Velocity error that will result in an emergency timed slow-down. If the velocity difference between the digital demand and the digital velocity computed by DPP exceeds this value, the car will go into emergency slowdown. When the demand reaches top speed, this value is replaced by a percentage of top speed.
VPT	0-600	300	Second	Under VIP service, the selected car is removed from Group operation. The car is then expressed to the VIP floor after the car calls are answered. The car remains at the floor with its doors open until a car call is registered. The car will remain in VIP service until the car call has been serviced. The car will then revert back into automatic operation. If after an adjustable (VPT) time period no car call was registered, the car reverts back to automatic.
WFV (MG Only)	0-500	100	volts	**W**eak **F**ield **V**oltage: Voltage value for Weak Motor Field Voltage.
XDT	0-200	16	1/64	E**X**tra **D**oor open (Standing) **T**ime (0-3 seconds): During a car/hall call stop, XDT parameter adds "door open" time to the Short Door Time (SDT parameter) once the Electronic Eye (EE device) is activated. Permits extra transfer time.

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NOTES