



SECTION 7 - CAR ADJUSTMENT PARAMETERS 2
NOTES..... 15



SECTION 7 - 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	Second	Attendant Buzzer Time. Duration of time for the attendant buzzer to sound while a hall call is not being serviced.
ACB	0-65535	300	DPP	Bottom AC cess offset from SLD1: On access mode, this is the number of DPP counts at which the car will stop when traveling up after the SLD1 limit switch makes back up.
ACF	1-6	1	FL.#	AC cess Floor when mid-shaft. This parameter sets the access floor if it is located other than at the terminal floors.
ACT	0-65535	300	DPP	Top AC cess offset from SLU1: On access mode, this is the number of DPP counts at which the car will stop when traveling down after the SLU1 limit switch makes back up.
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. <i>Note: Only functional if the elevator is equipped with a load weighing system.</i>
AST	5-180	30	Second	Automatic Service T ime-out: After this time, car is taken out of group service or hall service.
CCD	1-128	3	# CALLS	Car Call D umping: Number of Car Calls that a car will answer without the Electric Eye (EE input) activated (before canceling the remaining Car Calls).
CDT	16-200	48	1/16 Second	Car Call D oor Time: This is the amount of time the doors will remain open when answering a car call.



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
CCN	1-15	JOB	NUMERIC	Car Communications Number. This parameter identifies the car for Car To Group communications. <i>This is set to the car number of the controller in this group, not the building elevator number.</i>
CIT	0-65535	48	SYS TIME	CPU Interrupt Test. 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 Second	Coded Call Keypad entry Time (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			Control Status Word (Car) 1 (See CSW Bit Commands p.8-4, not FLTXn param.)
CS2	0-65535			Control Status Word (Car) 2 (See CSW Bit Commands p.8-5, not FLTXn param.)
CS3	0-65535			Control Status Word (Car) 3 (See CSW Bit Commands p.8-6, not FLTXn param.)
CS4	0-65535			Control Status Word (Car) 4 (See CSW Bit Commands p.8-7, not FLTXn param.)
CS5	0-65535			Control Status Word (Car) 5 (See CSW Bit Commands p.8-8, not FLTXn param.)
CS6	0-65535			Control Status Word (Car) 6 (See CSW Bit Commands p.8-9, not FLTXn param.)
CS7	0-65535			Control Status Word (Car) 7 (See CSW Bit Commands p.8-10, not FLTXn param.)
CS8	0-65535			Control Status Word (Car) 8 (See CSW Bit Commands p.8-11, not FLTXn param.)



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
CS9	0-65535			Control Status Word (Car) 9 (See CSW Bit Commands p.8-12, not FLTXn param.)
CS10	0-65535			Control Status Word (Car) 10 (See CSW Bit Commands p.8-13, not FLTXn param.)
CS11	0-65535			Control Status Word (Car) 11 (See CSW Bit Commands p.8-14, not FLTXn param.)
CS12	0-65535			Control Status Word (Car) 12 (See CSW Bit Commands p.8-15, not FLTXn param.)
CS13	0-65535			Control Status Word (Car) 13 (See CSW Bit Commands p.8-16, not FLTXn param.)
CSW	0-65535			Control Status Word (Car) 0 (See CSW Bit Commands p.8-3, not FLTXn param.)
DCC	0-20	6	DOOR CYCLES	Door Cycle Protection Counter: Number of time the Doors will attempt to close without getting the Door close limit or the Door locks. After this number the elevator will be taken out of service on Door Protect.
DCP	5-20	12	Second	Door Close Protective time: The amount of time the doors are given to close before recycling. <i>Each time the door recycles it increases the door close attempt register which is linked to DCC.</i>
DDT	0-80	8	1/16 Second	Door Open Delay Time after activation of DOB (Door Open Button) input.
DER	Not Adjustable	100	Feet/ min/ sec	DEceleration Rate: This is provided as part of the "S" curve to monitor the performance of the valve adjustments.
DHT	0-64	15	1/16 Second	Dover "H" Operator Time: Delay time before high speed door opening. Only used on Dover OHS door operator circuits.
DIT	0-16	1	1/16 Second	Door Interlock Time: Time delay between switching from door close to door open to prevent interlock jamming.



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
DLR	0-65535	JOB	DPP	<p>Down Limit position count Reference: This command allows viewing of the recorded DPP positions associated with the down slowdown limits. Although 5 are shown using this command only one (DLR1) is utilized on a hydro.</p> <p><i>To manually re-enter the DPP position of the Down Slowdown switch -- Use the command DLR1 = nnnn "n" represents the 4 digit DPP count you want to enter for DLR1</i></p>
DMD	Calculated			Digital Multiplier Down direction. Not Applicable for a Hydro.
DMU	Calculated			Digital Multiplier Up direction. Not Applicable for a Hydro
DOD	0-32	12	1/16 Second	Door Open Delay time: Only used on OTIS 6970 operators.
DOH	0-360	15	Second	Extra Door Open button Hold time: Only used with Door Hold buttons.
DOP	5-20	18	Second	Door Open Protective time: Amount of time allowed to open the doors before taken out of service on Door Protect.
DOT	0-60	15	Second	Door Open Button Time-out: Maximum amount of time doors are allowed to remain open from the Door open button input.
DPD	0-20	0	DPP	Digital Position ADjustment: 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.
DPF	160-960	320	DPP	DPP Per Foot (dpp x 10) . The number of DPP counts per foot that the controller is expecting to count. <i>Set to 320 for 32.0 dpp per foot on standard jobs utilizing a tape positioning system.</i>
DPL	0-40	32	DPP	Digital Position at 12 inch Leveling: 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)



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
DPZ	0-20	16	DPP	Digital Position at 6 inch Zone: 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	Non Adjustable	1	1/16 Second	Deceleration Roll Time: This is provided as part of the "S" curve to monitor the performance of the valve adjustments.
DRV	0-80	0	Second	Door ReVersal (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 (up)	8-1500	100	DPP	Deceleration TArget (DPP Count): This is the distance from the floor level that slowdown is initiated in the up direction.
DT2 (down)	10-900	100	DPP	Deceleration Target 2 (DPP Count): This is the distance from the floor level that slowdown is initiated in the down direction.
DZO	CALCULATED			Digital Zero Offset. Not Applicable for a Hydro
EDR	0-65535	JOB	DPPs	Emergency Down Limit Reference: This is the DPP reference point at which the Down Emergency Terminal Switch opens. <i>This parameter is available on a Hydro controller however it has no function as Emergency Limits are not required on Hydraulic elevator.</i>
EDS	NO RANGE			<p>Emergency Dispatch floor Setting: If car communication is lost with dispatcher, car will stop at the floors set with this command.</p> <p>Setup in the Black 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.</p>



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
EPF	1- # FLs	1	Floor Number	<p>Emergency Power recall Floor: This is to be set to the landing at which emergency power recall sequence is to bring the car to.</p> <p><i>Note: This is to be set to the landing number for this elevator and is counted from the lowest landing this elevator serves. This is normally set the same as the Main Phase 1 recall floor.</i></p>
ESV	0-65535	JOB	FPM	<p>Emergency Slowdown Velocity: Maximum speed reference output when the Slowdown Limit Switch is activated (Open). If the car speed exceeds this setting the car will immediately begin an emergency slowdown.</p>
ETV	0-65535	JOB	FPM	<p>Emergency Terminal slowdown Velocity: Maximum velocity allowed when an Emergency Limit Switch is open. <i>This parameter is available on a Hydro controller however it has no function as Emergency Limits are not required on Hydraulic elevator.</i></p>
EUR	0-65535	JOB	DPPs	<p>Emergency Up Limit Reference: This is the DPP reference for the point at which the Up Emergency Terminal Switch opens. <i>This parameter is available on a Hydro controller however it has no function as Emergency Limits are not required on Hydraulic elevator.</i></p>
FAL	1- # FLs	2	Floor Number	<p>Fire Recall Alternate Floor: The alternate floor to which cars recall to when main default fire floor sensor (FAL) is activated. (See FIR param).</p> <p><i>Note: This is to be set to the landing number which this elevator is to recall to when on Fire Phase 1 Alternate Recall Operation and is counted from the lowest landing this elevator serves.</i></p>
FBT	1-65535	1	1/64 Second	<p>Fire Bypass Timer for fire GSA standard. This is only applicable to GSA specific projects and is used to time out the Smoke Detector Bypass function.</p>
FEV	0-2000	0	FPM	<p>Feed forward End Velocity. Not Applicable for a Hydro</p>



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
FIR	1- # FLs	1	Floor Number	FIR Recall Floor: The floor to which the car is to recall to during Phase 1 recall operation. <i>Note: This is to be set to the landing number for which this elevator is to recall to when on Fire Phase 1 Recall Operation and is counted from the lowest landing this elevator serves.</i>
FLV	0-480	290	VOLTS	Field Line Voltage: Not Applicable for a Hydro
FRC	1-8	3	RESETS	Fault Retry Count. The number of times the controller will try to recover from a motion fault and return to automatic service before shutting down.
FSD	0-24	0	1/64 Second	Final Stop Damping. Not Applicable for a Hydro
GCT	0-32	20	1/16 Second	Gong Cycle Time: Total On time for the 1 st Down Lantern signal (1/16 sec).
GDB	4-64	4	1/64 Second	Gate and lock DeBounce time: Time to debounce (delay) the gate and lock signals to prevent a false start caused by the gate or lock bouncing.
GLV	0-200	160	FPM	Gate and Lock Velocity limit. Maximum car velocity allowed by HYC board when GL1 input is deactivated.
GOT	0-32	9	1/16 Second	Gong Off Time: Total off time between Down Lantern Signals
GP1	0-65535 (Software Specific)			General Purpose parameter 1 (Job Specific)
GP2	0-65535 (Software Specific)			General Purpose parameter 2 (Job Specific)
GP4	0-65535 (Software Specific)			General Purpose parameter 4 (Job Specific)
GP5	0-65535 (Software Specific)			General Purpose parameter 5 (Job Specific)
GRT	20-360	180	Second	Generator Run Time: Not Applicable for a Hydro



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
HBT	0-32	8	1/16 Second	Handicap Buzzer Time (HBZ output) Floor Passing Tone. This is the amount of time each pulse will be on to activate the signaling device. (pulse function of Handicap Buzzer)
HDT	0-60	15	Second	Car Homing Door open Time
HLD	0-60	0	Second	Hall Lantern Delay: Delay time from activation of the slowdown to send hall lantern output signal.
HM1	1- # FLs	1	Floor Number	Car HoMing 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. <i>Note: This is to be set to the landing number for this elevator and is counted from the lowest landing this elevator serves</i>
HM2	1- # FLs	1	Floor Number	Car HoMing floor designation 2
HM3	1- # FLs	1	Floor Number	Car HoMing floor designation 3
HM4	1- # FLs	1	Floor Number	Car HoMing floor designation 4
HTT	0-65535	35	Floor Number	High Speed Travel Timer: Maximum time the car is allowed to run at high speed.
IFT	0-301	15	Second	Independent to Fire Time: This is the time delay before overriding independent service during Fire Phase I operation.
IRV	0-150	150	FPM	Inspection Run Velocity limit. HYC board velocity limit when car is running on inspection mode.
IVE	0-100	12	FPM	Inspection VElocity: The Inspection velocity is set at 12 FPM (0.06 m/s) when the controller is shipped.
LBY	1- # FLs	1	Floor Number	LobBY Floor: Default recall floor during regular zoning services. <i>Note: This is to be set to the landing number for this elevator and is counted from the lowest landing this elevator serves</i>



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
LDT	32-200	48	1/16 Second	Long Door Open (Standing) Time (2 to 12.5 seconds) This is the time period the doors should stay open when answering a hall call. <i>Example: LDT = 48 (48/16 = 3 seconds)</i>
LFT	0-600	60	Second	Light and Fan Time: This is the time period (in Seconds) before relay LFT is energized in the TOC box to turn off lights and fan inside the elevator when it is parked.
LIC	16-25	20	msec	Low Intensity Cycle 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	Low Intensity On 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 Second	Local Next-Up Door time: Only used for simplex car when Lobby Recall feature enabled
LOT	0-65535	0	Second	Low Oil run Time, when the pump running time exceed this time setting the unit will activate low oil function and register a 64 fault.
LPE	1-65535	50	DPP	Terminal Limit switch Position Error: 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). Not Applicable for a Hydro
LVE	Non Adjustable	12	fpm	Leveling VElocity (feet per minute) This is the Leveling reference velocity in the "S" curve.



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
MAR	75-300	150	Fpm/s	Acceleration Rate when using MMS parameter for <u>setting top speed</u> . Not Applicable for a Hydro
MBT	0-65535	1	Second	Motor Blower Timer . Not Applicable for a Hydro
MDR	80-3	150	Fpm/s	Deceleration Rate when using MMS parameter for <u>setting top speed</u> Not Applicable for a Hydro
MDT	8-40	18	DPP	Deceleration Target when using MMS parameter for <u>setting top speed</u> Not Applicable for a Hydro
MLV	Not Adjustable	40	Fpm	Maximum Level Velocity : When leveling, maximum velocity at which the car can run with doors open.
MMS	0 - top speed	Top speed	Fpm	Maximum Car Speed . Sets top speed of car. Only functional when bit 5 on Control Status Word 7 (CS7) is set. Not Applicable for a Hydro
MSS	1-480	250	Fpm/s ²	Start Roll Rate into acceleration using MMS operation. Not Applicable for a Hydro
MRT	0-65535	45	Second	Maximum Run Timer : Maximum time the car is allowed to run per trip. Run car from bottom floor to top floor on inspection and record time. Add 10 seconds to value recorded and enter in MRT.
MRV	Not Adjustable	50	Fpm	Maximum Re-level Velocity : Maximum velocity the car can run with the doors open when re-leveling.
MTL	10-50	18	DPP	Transfer to Leveling mode when using MMS parameter Not Applicable for a Hydro
MVD	0-24	5	1/64 Second	Minimum Velocity Damping Time period Not Applicable for a Hydro



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
NCF	0-12	0	Num	Number of Coded calls per Floor (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. <i>Note: If this value is changed, all new codes must be re-entered.</i>
NDT	5-120	15	Second	Nudging Door Time Once the time the door has been open reaches the value in NDT door nudging operation is activated.
OST	0-65535	0	1/16 Second	Overlay Slowdown Timer. Not Applicable for a Hydro
PDT	0-128	0	1/64 Second	Preconditioning Delay Time. Not Applicable for a Hydro
PEK	0-31	Calculated	Number	PE formance C onstant: Not Applicable for a Hydro
PMP	0-65335	5	Second	Pump time to run after Up relay falls out. This is the amount of time the pump is to keep running after the Up valves de-energize.
PPS	0-128	0	1/64 Second	Preconditioning Phase-out Start time. Not Applicable for a Hydro
PPT	0-196	0	1/64 Second	Preconditioning Phase-out Time Not Applicable for a Hydro
RVE	Non Adjustable	12	FPM	Re-leveling VE locity (feet per minute)
SCT	2-18	18	1/16 Second	System Master Control Timer. Delay timer for SMC output that controls the SM contactor. This timer uses increments of 1/16 second to delay SMC input.
SDT	4-80	8	1/16 Second	Short Door Time (0.5 to 5 seconds) after Electric Eye (EE input) or Safety Edge (SE input) activation
SPC	0-20	6	Cycles	Start Sequence Protection Counter: Normally adjusted for 6 cycles to try starting motion. Refer to Error code 18.



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
SSD	2-64	2	1/16 Second	Stop Sequence Delay (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.
SST	Non Adjustable	24	1/64 Second	Soft Start Time: This is provided as part of the “S” curve to monitor the performance of the valve adjustments
SSV	0-36	0	FPM	Soft Start Velocity (fpm). Not Applicable for a Hydro
TDF	0-16	8	1/16 Second	Time Damping before Fault: 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		Tach Damping Time (from Top of Car Transducer) : Digital tach (DPP Sensor) damping time period. (Filtering)
TFD	Non Adjustable	1	Number	Top speed Flat top travel Distance: This is provided as part of the “S” curve to monitor the performance of the valve adjustmen.
TLM (up)	10-900	100	DPP	Transfer to Leveling Mode: Distance in DPP from floor level in the Up Direction 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. <i>Note: The leveling mode does not refer tot the leveling operation. In this mode the velocity is directly proportional to the distance remaining from floor. TLM must be a larger value than DTA.</i>
TL2 (down)	10-900	100	DPP	Transfer to Leveling Mode: Distance in DPP from floor level in the Down Direction 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. <i>Note: The leveling mode does not refer tot the leveling operation. In this mode the velocity is directly proportional to the distance remaining from floor. TL2 must be a larger value than DT2.</i>



PARAMETER	RANGE	DEFAULT	UNITS	DESCRIPTION/UNITS OF CAR ADJUSTMENT PARAMETER
TLV	Non Adjustable	5	DPP	Transfer to Leveling Vane: Distance in DPP from floor level at which the constant leveling velocity should take effect. This is provided as part of the "S" curve to monitor the performance of the valve adjustments.
TSV	1-65535	JOB	FPM	Terminal Slowdown limit Velocity: Maximum velocity the terminal slowdown limit switch can open at. If the car velocity exceeds the Limit velocity, the computer will initiate an emergency slow-down.
ULR	1-65535	JOB	DPP	Up Limit position count Reference: This command allows viewing of the recorded DPP positions associated with the up slowdown limits. Although 5 are shown using this command only one is utilized on a hydro. <i>To manually re-enter the DPP position of the Up Slowdown switch -- Use the command ULR1 = nnnn "n" represents the 4 digit DPP count you want to enter for DLR1.</i>
VDD	0-24	12	1/64 sec	Velocity Damping Decrement. Not Applicable for a Hydro
VDF	0-20	16	1/16 sec	Velocity error for Drive Fault: 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. 8-5)
VDT	4-31	6	1/64 sec	Velocity Damping Time Period: The filtering or damping time period needed to remove any step values introduced during speed reference calculations..
VEE	50-350	150	FPM	Velocity Error for Emergency slow-down: Velocity error that will result in an emergency 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.
XDT	0-200	16	1/64	EXtra Door open (Standing) Time (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.

