

# Appendix B:

## Command Groups

Program Definition		GT	GV	GT6	GV6
DEF PROG	Begin Definition of Program	--	--	X	X
DELPROG	Delete Program	--	--	X	X
END	End Program/Profile Definition	--	--	X	X
ERASE	Erase All Programs and Profiles	--	--	X	X
RUN PROG	Run a Program	--	--	X	X
STARTP	Startup Program Assignment	--	--	X	X
TDIR	Transfer Stored Programs & Profiles	--	--	X	X
TMEM	Transfer Memory Usage	--	--	X	X
TPROG	Transfer Program Contents	--	--	X	X

Motion		GT	GV	GT6	GV6
A	Acceleration	--	--	X	X
AA	Acceleration (S-Curve)	--	--	X	X
AD	Deceleration	--	--	X	X
ADA	Deceleration (S-Curve)	--	--	X	X
D	Distance	--	--	X	X
GO	Initiate Motion	--	--	X	X
K	Kill Motion	--	--	X	X
LHAD	Hardware EOT Limit Decel	--	--	X	X
LHADA	Hardware EOT Limit Decel (S-Curve)	--	--	X	X
LSAD	Software EOT Limit Decel	--	--	X	X
LSADA	Software EOT Limit Decel (S-Curve)	--	--	X	X
MA	Incremental/Absolute (Preset) Positioning Mode	--	--	X	X
MC	Preset/Continuous Positioning Mode	--	--	X	X
PSET	Establish Absolute Position	--	--	X	X
S	Stop Motion	--	--	X	X
V	Velocity	--	--	X	X

Compiled Motion		GT	GV	GT6	GV6
A	Acceleration	--	--	X	X
AD	Deceleration	--	--	X	X
D	Distance	--	--	X	X
DEF PROF	Begin Definition of Profile	--	--	X	X
DEL PROF	Delete Profile	--	--	X	X
END	End Program/Profile Def(n)	--	--	X	X
GOBUF	Store Compiled Motion Segment	--	--	X	X
GOWHEN	Conditional GOBUF	--	--	X	X
MC	Preset/Continuous Positioning Mode	--	--	X	X
PLN	End of Loop in Compiled Motion	--	--	X	X
PLOOP	Beginning of Loop in Compiled Motion	--	--	X	X
POUTA	Compiled Output	--	--	X	X
PRUN PROF	Run a Compiled Profile	--	--	X	X
SGENB	Enable a Gain Set	--	--	X	X
TDIR	Transfer Stored Programs & Profiles	--	--	X	X
TRGFN	Trigger Interrupt Functions (GOBUF on trigger input)	--	--	X	X
V	Velocity	--	--	X	X
VF	Final Velocity	--	--	X	X

Communication Interface		GT	GV	GT6	GV6
ADDR	Multiple Unit Auto-Address	X	X	X	X
BOT	Beginning Transmission Characters	X	X	X	X
E	Enable Communication	X	X	X	X
ECHO	Communication Echo	X	X	X	X
EOL	End-of-Line Characters	X	X	X	X
EOT	End-of-Transmission Characters	X	X	X	X
ERRBAD	Error Prompt	X	X	X	X
ERRDEF	Program Definition Prompt	X	X	X	X
ERRLVL	Error Detection Level	X	X	X	X
ERROK	Good Prompt	X	X	X	X
RESET	Reset Drive	X	X	X	X
XONOFF	XON/XOFF	X	X	X	X

Command Buffer Control		GT	GV	GT6	GV6
COMEXC	Continuous Command Processing Mode	--	--	X	X
COMEXL	Continue Execution on Limit	--	--	X	X
COMEXR	Continue Motion on Pause/Cont. Input	--	--	X	X
COMEXS	Continue Execution on Stop	--	--	X	X

Program Flow		GT	GV	GT6	GV6
C	Continue Command Exec.	--	--	X	X
ELSE	Else Condition (IF = false)	--	--	X	X
GOSUB	Call a Subroutine	--	--	X	X
IF	IF Conditional Statement	--	--	X	X
JUMP	Jump to a Program	--	--	X	X
L	Loop	--	--	X	X
LN	End of Loop	--	--	X	X
NIF	End of IF Statement	--	--	X	X
PS	Pause Program Execution	--	--	X	X
T	Time Delay (Dwell)	--	--	X	X
WAIT	Wait for Condition	--	--	X	X

Error Handling		GT	GV	GT6	GV6
CERRLG	Clear Error Log	X	X	X	X
ERROR	Error Checking Enable	--	--	X	X
ERRORP	Error Program Assignment	--	--	X	X
TER	Transfer Error Status	X	X	X	X
TERRLG	Transfer Error Log	X	X	X	X

Drive Configuration		GT	GV	GT6	GV6
ANICDB	Analog Input Center Deadband	X	X	--	--
DABSD	Enable ABS Damping	X	--	X	--
DACTDP	Active Damping Gain	X	--	X	--
DAUTOS	Auto Standby Reduction	X	--	X	--
DCLRLR	Clear Latched Status Register	X	X	X	X
DCMDZ	Zero The Drive Command Offset	X	X	--	--
DDAMPA	Damping During Accel	X	--	X	--
DELVIS	Electronic Viscosity Enable	X	--	X	--
DIFOLD	Current Foldback Enable	--	X	--	X
DMODE	Drive Control Mode	X	X	X	X
DMTR	Identify Motor	X	X	X	X
DMTSC	Torque/Force Scaling	--	X	--	--
DMVSC	Velocity Scaling	X	X	--	--
DPHBAL	Phase Balance	X	--	X	--
DPHOFA	Phase A Current Offset	X	--	X	--
DPHOFB	Phase B Current Offset	X	--	X	--
DPWM	Drive PWM Frequency	--	X	--	X
DRES	Drive Resolution	X	X	X	--
DRIVE	Drive Enable	X	X	X	X
DSTALL	Stall Detect Sensitivity	X	--	X	--
DWAVEF	Waveform	X	--	X	--
ERES	Encoder/Resolver Resolution	--	X	--	X
ESK	Fault on Stall Enable	X	--	X	--
FLTDSB	Fault on Disable (DRIVE0)	X	X	X	X
FLTSTP	Fault on Startup Indexer Pulses	X	X	--	--
KDRIVE	Disable Drive on Kill	--	--	X	X
ORES	Resolution of Step and Direction Output (GT) or Encoder Output (GV)	X	X	X	X
RESET	Reset Drive	X	X	X	X
RFS	Return to Factory Settings	X	X	X	X
SFB	Servo Feedback Source Selection	--	X	--	X
SHALL	Hall Sensor Inversion	--	X	--	X
SMPER	Maximum Position Error	--	X	--	X
SMVER	Maximum Velocity Error	--	X	--	X
SRSET	Resolver Offset Angle	--	X	--	X

Tuning		GT	GV	GT6	GV6
DIBW	Current Loop Bandwidth	--	X	--	X
DIGN	Current Loop Gain	X	--	X	--
DNOTAD	Notch Filter A Depth	--	X	--	X
DNOTAF	Notch Filter A Frequency	--	X	--	X
DNOTAQ	Notch Filter A Quality Factor	--	X	--	X
DNOTBD	Notch Filter B Depth	--	X	--	X
DNOTBF	Notch Filter B Frequency	--	X	--	X
DNOTBQ	Notch Filter B Quality Factor	--	X	--	X
DNOTLD	Notch Lead Filter Break Frequency	--	X	--	X
DNOTLG	Notch Lag Filter Break Frequency	--	X	--	X
DPBW	Position Loop Bandwidth	--	X	--	X
DVBW	Velocity Loop Bandwidth	--	X	--	X

Tuning – continued on next page

Tuning <i>(continued)</i>		GT	GV	GT6	GV6
SGAF	Acceleration Feedforward	--	--	--	X
SGENB	Enable a Gain Set	--	--	--	X
SGINTE	Integrator Enable	--	X	--	X
SGIRAT	Current Damping Ratio	--	X	--	X
SGPRAT	Position Damping Ratio	--	X	--	X
SGPSIG	Velocity/Position Bandwidth Ratio	--	X	--	X
SGSET	Save a Gain Set	--	--	--	X
SGVF	Velocity Feedforward Gain	--	--	--	X
SGVRAT	Velocity Damping Ratio	--	X	--	X
TGAIN	Transfer Active Gains	--	X	--	X
TSGSET	Transfer Gain Set	--	--	--	X

Motor Configuration		GT	GV	GT6	GV6
DMEPIT	Motor Electrical Pitch	--	X	--	X
DMTAMB	Motor Ambient Temperature	--	X	--	X
DMTD	Motor Damping	--	X	--	X
DMTIC	Continuous Current	X	X	X	X
DMTICD	Continuous Current Derating	--	X	--	X
DMTIND	Motor Inductance	X	--	X	--
DMTIP	Peak Current	--	X	--	X
DMTJ	Motor Rotor Inertia or Motor Mass	X	X	X	X
DMTKE	Motor Ke	--	X	--	X
DMTLMN	Minimum Motor Inductance	--	X	--	X
DMTLMX	Maximum Motor Inductance	--	X	--	X
DMTMAX	Maximum Motor Winding Temp	--	X	--	X
DMTRES	Motor Winding Resistance	X	X	X	X
DMTRWC	Motor Winding Thermal Resistance	--	X	--	X
DMTSTT	Motor Static Torque	X	--	X	--
DMTTCM	Motor Thermal Time Constant	--	X	--	X
DMTTCW	Motor Winding Time Constant	--	X	--	X
DMTW	Motor Rated Speed	--	X	--	X
DPOLE	Motor Pole Pairs	X	X	X	X
TCS	Transfer Configuration Status	X	X	X	X

System		GT	GV	GT6	GV6
DMTLIM	Torque/Force Limit	--	X	--	X
DMVLIM	Velocity Limit	X	X	X	X
LDAMP	Load Damping	--	X	--	X
LJRAT	Load-to-Rotor Inertia Ratio or Load-to-Forcer Ratio	X	X	X	X
TSS	Transfer System Status	X	X	X	X

Inputs		GT	GV	GT6	GV6
INDEB	Input Debounce Time	X	X	X	X
INFNC	Input Function Assignment	--	--	X	X
INLVL	Input Level Sense	X	X	X	X
INSELP	Program Select Mode	--	--	X	X
INUFD	User Fault Input Delay	X	X	X	X
TRGFN	Trigger Interrupt Functions (GOBUF on trigger input)	--	--	X	X
TRGLOT	Trigger Interrupt Lockout	--	--	X	X
TIN	Transfer Input Status	X	X	X	X
TINO	Transfer Enable Input Status	X	X	X	X

Outputs		GT	GV	GT6	GV6
DMONAS	Analog Monitor Output A Scaling	X	X	X	X
DMONAV	Analog Monitor Output A Variable	X	X	X	X
DMONBS	Analog Monitor Output B Scaling	X	X	X	X
DMONBV	Analog Monitor Output B Variable	X	X	X	X
ORES	Resolution of Step & Direction Output (GT) or Encoder Output (GV)	X	X	X	X
OUT	Output State Manipulation	--	--	X	X
OUTBD	Brake Output Delay	X	X	X	X
OUTFNC	Output Function Assignment	--	--	X	X
OUTLVL	Output Level Sense	X	X	X	X
POUTA	Compiled Output	--	--	X	X
TOUT	Transfer Output Status	X	X	X	X

End-of-Travel Limits		GT	GV	GT6	GV6
LH	Hardware End-of-Travel Limit Enable	X	X	X	X
LHAD	Hardware EOT Limit Decel	--	--	X	X
LHADA	Hardware EOT Limit Decel (S-Curve)	--	--	X	X
LS	Software End-of-Travel Limit Enable	--	--	X	X
LSAD	Software EOT Limit Decel	--	--	X	X
LSADA	Software EOT Limit Decel (S-Curve)	--	--	X	X
LSNEG	Software Limit Neg. Range	--	--	X	X
LSPOS	Software Limit Pos. Range	--	--	X	X
TIN	Transfer Input Status	X	X	X	X

Homings		GT	GV	GT6	GV6
HOM	Go Home	--	--	X	X
HOMA	Home Acceleration	--	--	X	X
HOMBAC	Home Backup	--	--	X	X
HOMDF	Home Final Direction	--	--	X	X
HOMEDG	Home Reference Edge	--	--	X	X
HOMV	Home Velocity	--	--	X	X
HOMVF	Home Final Velocity	--	--	X	X
HOMZ	Home to Encoder Z Channel	--	--	--	X

Target Zone		GT	GV	GT6	GV6
STRGTD	Target Zone Distance	--	--	--	X
STRGTE	Target Zone Mode Enable	--	--	--	X
STRGTT	Target Zone Timeout	--	--	--	X
STRGTV	Target Zone Velocity	--	--	--	X
TSTLT	Transfer Settling Time	--	--	--	X

Registration		GT	GV	GT6	GV6
RE	Registration Enable	--	--	X	X
REG	Registration Distance	--	--	X	X
REGLOD	Registration Lockout Distance	--	--	X	X

Transfer (Display/Report)		GT	GV	GT6	GV6
TACC	Transfer Commanded Acceleration	--	--	X	X
TACCA	Transfer Actual Accel.	--	--	--	X
TANI	Transfer Analog Input Voltage	X	X	--	--
TAS	Transfer Axis Status	X	X	X	X
TASF	Transfer Axis Status (full-text report)	X	X	X	X
TASX	Transfer Extended Axis Status	X	X	X	X
TASXF	TASX (full-text report)	X	X	X	X
TCS	Transfer Configuration Status	X	X	X	X
TDHRS	Transfer Operating Hours	X	X	X	X
TDICNT	Transfer Continuous Current Rating	X	X	X	X
TDIMAX	Transfer Maximum Current Rating	--	X	--	X
TDIR	Transfer Stored Programs & Profiles	--	--	X	X
TDTEMP	Transfer Drive Temperature	X	X	X	X
TDVBUS	Transfer Bus Voltage	X	X	X	X
TER	Transfer Error Status	X	X	X	X
TERF	Transfer Error Status (full-text report)	X	X	X	X
TERRLG	Transfer Error Log	X	X	X	X
TGAIN	Transfer Active Gains	--	X	--	X
THALL	Hall Sensor Values	--	X	--	X
TIN	Transfer Input Status	X	X	X	X
TINO	Transfer Other Input Status	X	X	X	X
TMEM	Transfer Memory Usage	--	--	X	X
TMTEMP	Transfer Motor Temp.	--	X	--	X
TOUT	Transfer Output Status	X	X	X	X
TPC	Transfer Commanded Pos.	X	X	X	X
TPE	Transfer Actual Position	--	X	--	X
TPER	Transfer Position Error	--	X	--	X
TPRA	Transfer Absolute Resolver Position	--	X	--	X
TPROG	Transfer Program Contents	--	--	X	X
TREV	Transfer Revision Level	X	X	X	X
TSGSET	Transfer Gain Set	--	--	--	X
TSROFF	Transfer Resolver Offset Angle	--	X	--	X
TSS	Transfer System Status	X	X	X	X
TSSF	Transfer System Status (full-text report)	X	X	X	X
TSTLT	Transfer Settling Time	--	--	--	X
TTRQ	Transfer Commanded Torque/Force	--	X	--	X
TTRQA	Transfer Actual Torque/Force	--	X	--	X
TVE	Transfer Velocity Error	--	X	--	X
TVEL	Transfer Commanded Vel.	X	X	X	X
TVELA	Transfer Actual Velocity	--	X	--	X

Variables		GT	GV	GT6	GV6
VARCLR	Variable Clear	--	--	X	X
VARI	Integer Variable	--	--	X	X

Debug Tools <i>(see also Transfer commands)</i>		GT	GV	GT6	GV6
TAS	Transfer Axis Status	X	X	X	X
TASX	Transfer Extended Axis Status	X	X	X	X
TCS	Transfer Configuration Status	X	X	X	X
TERRLG	Transfer Error Log	X	X	X	X
THALL	Hall Sensor Values	--	X	--	X
TRACE	Program Trace Mode	--	--	X	X