

Kollmorgen AC Drives

Information Sheet for Crimson v2.0

Compatible Devices

- Kollmorgen AC drives 300/400/600/700

Verified Device

- Schneider/Telemecanique LXM15MD40N4 Version 1.0
- S300 Version 1.2

Device Options

Select the address of the destination device.

Accessible Data

PREFIX	DESCRIPTION	Function List	Command	Info
---	A COMMANDS...			
ACC	Acceleration	VELOCITY	ACC	
ACCR	Acceleration - Home/Jog	POSITION	ACCR	
ACCU	Type of acceleration command	AMPLIFIER	ACCUNIT	
ACTF	Active Fault Mode	AMPLIFIER	ACTFAULT	
ACTI	Output stage active/inhibited	DRIVE STATUS	ACTIVE	
ACTR	Activate RS232 Watchdog	COMMUNICATION	ACTRS232	
ADDR	Multidrop Address	BASIC SETUP	ADDR	
AENA	Auto-Enable	BASIC SETUP	AENA	
ALIA	Drive Name String	BASIC SETUP	ALIAS	
A10X	Additional Torque Tuning Value	ANALOG I/O	AN10TX	
A11N	Max. # of changeable INxTRIG	ANALOG I/O	AN11NR	
A11R	Range - analog change of INxTRIG	ANALOG I/O	AN11RANGE	
ANTR	Analog Output Scaling	ANALOG I/O	AN_TRIG	1
ANCN	Analog Input Configuration	ANALOG I/O	ANCNFG	
ANDB	Dead Band - Analog Velocity Input	ANALOG I/O	ANDB	
ANIN	Analog Input Voltage	ACTUAL VALUE	ANIN	1
AOFF	Analog Input Offset	ANALOG I/O	ANOFF	1
AOUT	Analog Output Configuration	ANALOG I/O	ANOUT	1
AZER	Analog Input Zero	ANALOG I/O	ANZERO	1
AHOM	Automatic Homing	POSITION	AUTOHOME	
AVZ	Analog Out Filter Time Constant	ANALOG I/O	AVZ	1

---	C COMMANDS...			
CLRF	Clear Drive Fault	AMPLIFIER	CLRFAULT	
CLRH	Bit 5 of STAT is cleared	DRIVE STATUS	CLRHR	
CLRO	Delete a Motion Task	POSITION	CLRORDER	
CLRW	Warning Mode	DRIVE STATUS	CLRWARN	
COLD	Drive Reset	DRIVE STATUS	COLDSTART	
---	D COMMANDS...			
DOFF	Analog Output Offset	VELOCITY	DAOFFSET	1
DEC	Deceleration	VELOCITY	DEC	
DECD	Deceleration - Disable Output	VELOCITY	DECDIS	
DECR	Deceleration Ramp - Home/Jog	POSITION	DECR	
DECS	Fast Stop Ramp	VELOCITY	DECSTOP	
DVCE	Device ID Numeric Data	AMPLIFIER	DEVICE	2
DICO	Continuous Current	AMPLIFIER	DICONT	
DIPE	Peak Rated Current	AMPLIFIER	DIPEAK	
DIR	Count Direction	VELOCITY	DIR	
DIS	Disable	AMPLIFIER	DIS	
DREF	Homing Direction	POSITION	DREF	
DRVS	Internal Status	DRIVE STATUS	DRVSTAT	
---	E COMMANDS...			
EN	Enable	AMPLIFIER	EN	
ENCI	Encoder Pulse Input	GEARING	ENCIN	
ENCL	SinCos Encoder Resolution	MOTOR	ENCLINES	
ENCM	Encoder Emulation	POSITION	ENCMODE	
ENCO	Encoder Emulation Resolution	POSITION	ENCOUT	
ENZE	Zero Pulse Offset	POSITION	ENZERO	
ECOD	Fault Message String (39 Chars.)	BASIC SETUP	ERRCODE	2,3
EOA	Output Error Register	DRIVE STATUS	ERRCODE*	
EXTM	External Encoder Multiplier	POSITION	EXTMUL	
EXTW	External Fieldbus Watchdog	COMMUNICATION	EXTWD	
---	F COMMANDS...			
FBTY	Encoder/Resolver Selection	FEEDBACK	FBTYPE	
FLSH	Send Data to External Flash	COMMUNICATION	FLASH	
FLTC	Fault Frequency	BASIC SETUP	FLTCNT*	1
FLTH	Fault History	BASIC SETUP	FLTHIST*	1
FLUX	Rated Flux	MOTOR	FLUXM	
		FEEDBACK		
---	G COMMANDS...			
GRI	Gearing Input Factor	GEARING	GEARI	
GRMO	Secondary Position Source	GEARING	GEARMODE	
GRO	Gearing Output Factor	GEARING	GEARO	
GP	Proportional Gain - Position Loop	POSITION	GP	
GPFB	Feed Forward - Actual Current	POSITION	GPFBT	
GPFV	Feed Forward - Velocity	POSITION	GPFV	
GPTN	Integral - Position Loop	POSITION	GPTN	
GPV	Prop Gain - Velocity Controller	POSITION	GPV	
GV	Prop Gain - Velocity Loop	VELOCITY	GV	
GVFB	First Order TC - Velocity Loop	VELOCITY	GVFBT	

GVFI	% Output Filtered - Velocity Loop	VELOCITY	GVFILT	
GVFR	Feed Forward - Actual Velocity	VELOCITY	GVFR	
GVT2	Second TC - Velocity Loop	VELOCITY	GVT2	
GVTN	Integral - Velocity Loop	VELOCITY	GVTN	
---	H COMMANDS...			
HVER	Hardware Version String	BASIC SETUP	HVER	2
---	I COMMANDS...			
I	Current	ACTUAL VALUE	I	
I2T	RMS Current Loading %	ACTUAL VALUE	I2T	
I2TL	I2T Warning %	CURRENT	I2TLIM	
ICMD	Current Command	CURRENT	ICMD	
ICNT	Rated Current	CURRENT	ICONT	
ID	D-Component of Current Monitor	ACTUAL VALUE	ID	
IMAX	Current Limit for Drive/Motor	CURRENT	IMAX	
INAD	A/D Channels Input counts	ANALOG I/O	IN	10
IN	Digital Input Status	DIGITAL I/O	INn	1
INMO	Digital Input Function	DIGITAL I/O	IN_MODE	1
INTR	INMODE Trigger Data	DIGITAL I/O	IN_TRIG	1
INPO	In-Position Status	POSITION	INPOS	
INPT	In-Position Delay	POSITION	INPT	
IPEK	Peak Current - Application	CURRENT	IPEAK	
IQ	Q-Component of Current Monitor	ACTUAL VALUE	IQ	
ISCA	Analog Current Scaling	ANALOG I/O	ISCALE	1
---	K COMMANDS...			
K	Kill	AMPLIFIER	K	
KC	I-Controller Prediction Current	CURRENT	KC	
KEYL	Lock the Push Buttons	BASIC SETUP	KEYLOCK	
KTN	Integral - Current Controller	CURRENT	KTN	
---	L COMMANDS...			
L	Stator Inductance	MOTOR	L	
LTCH	Latched 32/16 Position (LATCHDRVSTAT)	POSITION	LATCH	4
LTCX	Latched 32/16 Position (TRJSTAT)	POSITION	LATCHX	4
L16P	16 bit Position @ INx rising	POSITION	LATCH1P16	
L32P	32 bit Position @ INx rising	POSITION	LATCH1P32	
LED	LED Display	ACTUAL VALUE	LED	5
LEDS	Display Page	DRIVE STATUS	LEDSTAT	
LOAD	Load Parameters from EEPROM	AMPLIFIER	LOAD	
---	M COMMANDS...			
MXTE	Switch off - Ambient °C	BASIC SETUP	MAXTEMPE	
MXTH	Switch off - Heat Sink °C	BASIC SETUP	MAXTEMPH	
MXTM	Switch off - (Motor Ohms)	BASIC SETUP	MAXTEMPM	
MBRA	Motor Holding Brake Select	MOTOR	MBRAKE	
MDBC	Number of Motor Data Sets	MOTOR	MDBCNT	
MH	Start Homing	POSITION	MH	
MICO	Motor Continuous Current Rating	MOTOR	MICONT	
MIPK	Motor Peak Current Rating	MOTOR	MIPEAK	

MJOG	Start Jog Mode	POSITION	MJOG	
MKT	Motor KT	MOTOR	MKT	
MLGC	Adapt Gain Q-rated - Current Loop	CURRENT	MLGC	
MLGD	Adapt Gain D - Current Loop	CURRENT	MLGD	
MLGP	Adapt Gain Q-peak - Current Loop	CURRENT	MLGP	
MLGQ	Adapt Gain Abs - Current Loop	CURRENT	MLGQ	
MNAM	Motor Name String	MOTOR	MNAME	2
MNUM	Motor Number	MOTOR	MNUMBER	
MNTR	Monitor Output Voltage	ANALOG I/O	MONITOR	1
MOVE	Start Motion Task	POSITION	MOVE	
MPHA	Motor Phase, Feedback Offset	FEEDBACK	MPHASE	
MPOL	Number of Motor Poles	MOTOR	MPOLES	
MRD	Homing to Resolver Zero, Mode 5	POSITION	MRD	
MRBW	Resolver Bandwidth	FEEDBACK	MRESBW	
MRPO	Number of Resolver Poles	FEEDBACK	MRESPOLES	
MSPD	Maximum Rated Motor Velocity	MOTOR	MSPEED	
MTAP	Current Lead	MOTOR	MTANGLP	
MUNI	Units for Velocity Parameters	POSITION	MUNIT	
MVAB	Velocity Lead (Start Phi)	MOTOR	MVANGLB	
MVAF	Velocity Lead (Limit Phi)	MOTOR	MVANGLF	
MVAP	Velocity Lead (Commutation Angle)	MOTOR	MVANGLP	
---	N COMMANDS...			
NONB	Mains-BTB Check On/Off	DRIVE STATUS	NONBTB	
NREF	Homing Mode	POSITION	NREF	
---	O COMMANDS...			
OACC	Acceleration Time - Motion Task 0	POSITION	O_ACC	6
OC	Control Variable - Motion Task 0	POSITION	O_C	
ODEC	Deceleration Time - Motion Task 0	POSITION	O_DEC	6
OFN	Next Task Number - Motion Task 0	POSITION	O_FN	
OFT	Delay before Next Motion Task	POSITION	O_FT	
OP	Target Position - Motion Task 0	POSITION	O_P	
OV	Target Speed - Motion Task 0	POSITION	O_V	
O	Digital Output Status	DIGITAL I/O	O	1
OMOD	Digital Output Function	DIGITAL I/O	O_MODE	1
OTRI	OMODE Trigger Data	DIGITAL I/O	O_TRIG	1
OPMO	Operating Mode	AMPLIFIER	OPMODE	
OPTI	Option Slot ID	DRIVE STATUS	OPTION	
---	P COMMANDS...			
PASS	Parameter Change Password	BASIC SETUP	PASS	
PBAL	Regen Power - Actual	ACTUAL VALUE	PBAL	
PBAX	Regen Power - Maximum	BASIC SETUP	PBALMAX	
PBAR	Regen Resistor - Select	BASIC SETUP	PBALRES	
PE	Following Error - Actual	ACTUAL VALUE	PE	
PEIN	In-Position Window	POSITION	PEINPOS	
PEMX	Following Error - Maximum	POSITION	PEMAX	
PFB	Actual Position from Feedback	ACTUAL VALUE	PFB	
PFB0	Position from External Encoder	ACTUAL VALUE	PFB0	
PGRI	Position Resolution - Numerator	POSITION	PGEARI	

PGRO	Position Resolution - Denominator	POSITION	PGEARO	
PMOD	Line Phase Error Mode	BASIC SETUP	PMODE	
POSC	Axes Type	POSITION	POSCNFG	
PRD	20-bit Position Feedback	ACTUAL VALUE	PRD	
PTMN	Min. Accel for Motion Tasks	POSITION	PTMIN	
PUNI	Position Resolution	POSITION	PUNIT	
PV	Actual Velocity - Position Loop	ACTUAL VALUE	PV	
PVX	Max. Velocity - Position Loop	POSITION	PVMAX	
PVXN	Max. Neg Velocity - Position Loop	POSITION	PVMAXN	
PVXP	Maximum Positive Velocity	POSITION	PVMAXP	
---	R COMMANDS...			
RDY	Software Enable Status	DRIVE STATUS	READY	
REFI	Peak Rated Current for Homing 7	CURRENT	REFIP	
REFP	Reference Switch Position	POSITION	REFPOS	
REMO	Hardware Enable Status	DRIVE STATUS	REMOTE	
RESP	Resolver Phase	FEEDBACK	RESPHASE	
RK	Resolver Sine Gain Adjust	FEEDBACK	RK	
ROFF	Reference Offset	POSITION	ROFFS	
RABS	Offset to Encoder Position	POSITION	ROFFSABS	
R232	RS232 Watchdog Time	COMMUNICATION	RS232T	
RSTV	Restore Variables to Default	BASIC SETUP	RSTVAR	
---	S COMMANDS...			
S	Stop Motor and Disable Drive	OSCILLOSCOPE	S	
SAVE	Save Data in EEPROM	AMPLIFIER	SAVE	
SCAN	Restart Communications	COMMUNICATION	SCANX	
SNO	Drive Serial Number	BASIC SETUP	SERIALNO	
SETR	Set Reference Point	POSITION	SETREF	
SLOT	I/O States - Expansion Card	DIGITAL I/O	SLOTIO	
SSIG	SSI Code Select	FEEDBACK	SSIGRAY	
SSII	SSI Clock	FEEDBACK	SSIINV	
SSIM	SSI Mode	POSITION	SSIMODE	
SSIO	SSI Baud Rate	FEEDBACK	SSIOUT	
STAT	Drive Status Word	DRIVE STATUS	STAT	
STCO	Status Variable Warnings	DRIVE STATUS	STATCODE*	
STIO	I/O Status	DIGITAL I/O	STATIO	1,7
STUS	Detailed Amplifier Status	DRIVE STATUS	STATUS	7
STOP	Stop Motion Task	POSITION	STOP	
SCF	Position Reg 1...4 Configuration	POSITION	SWCNFG	
SCF2	Position Reg 0 & 5 Configuration	POSITION	SWCNFG2	
SWE	Position Register Data	POSITION	SWE	8
SWEN	Cam Position Register Data	POSITION	SWE_N	8
---	T COMMANDS...			
T	Digital Current Command	OSCILLOSCOPE	T	
TMPE	Ambient Temperature	ACTUAL VALUE	TEMPE	
TMPH	Heat Sink Temperature	ACTUAL VALUE	TEMPH	
TMPM	Motor Temperature	ACTUAL VALUE	TEMPM	
TRJS	Status 2	DRIVE STATUS	TRJSTAT	
TRUN	Run-Time Counter Value (secs)	BASIC SETUP	TRUN	

---	U COMMANDS...			
UID	User ID	AMPLIFIER	UID	
USER	User Defined Command String	ACTUAL VALUE	USER	2,9
---	V COMMANDS...			
V	Actual Velocity	ACTUAL VALUE	V	
VBUS	DC-bus Voltage	ACTUAL VALUE	VBUS	
VBSB	Maximum Line Voltage	BASIC SETUP	VBUSBAL	
VBSX	Maximum DC-bus Voltage	AMPLIFIER	VBUSMAX	
VBSN	Minimum DC-bus Voltage	AMPLIFIER	VBUSMIN	
VCMD	Internal Velocity RPM	ACTUAL VALUE	VCMD	
VER	Firmware Version String	BASIC SETUP	VER*	
VJOG	Jog Mode Speed	POSITION	VJOG	
VLIM	Maximum Velocity	VELOCITY	VLIM	
VMAX	Maximum System Speed	VELOCITY	VMAX	
VMIX	Velocity Mix	VELOCITY	VMIX	
VOSP	Overspeed	VELOCITY	VOSPD	
VREF	Homing Speed	POSITION	VREF	
VSCA	Velocity Scaling - Analog Input	ANALOG I/O	VSCALE	1
---	W COMMANDS...			
WMSK	Warning as Fault Mask	AMPLIFIER	WMASK	
---	ACTUAL VALUES...			
---	AMPLIFIER...			
---	ANALOG I/O...			
---	BASIC SETUP...			
---	COMMUNICATION...			
---	CURRENT...			
---	DIGITAL I/O...			
---	DRIVE STATUS...			
---	FEEDBACK...			
---	GEARING...			
---	MOTOR...			
---	OSCILLOSCOPE...			
---	POSITION...			
---	VELOCITY...			
---	LIST - ALPHABETICAL			
---	LIST - FUNCTION			
---	LIST - KEYWORD			

TABLE LAYOUT:

PREFIX: An abbreviation or contraction of the command name. '---' indicates a header which opens an associated list of selections.

DESCRIPTION: The specified operation of a command, or header title.

FUNCTION LIST: The specified command group.

COMMAND: The actual command mnemonic to be transmitted.

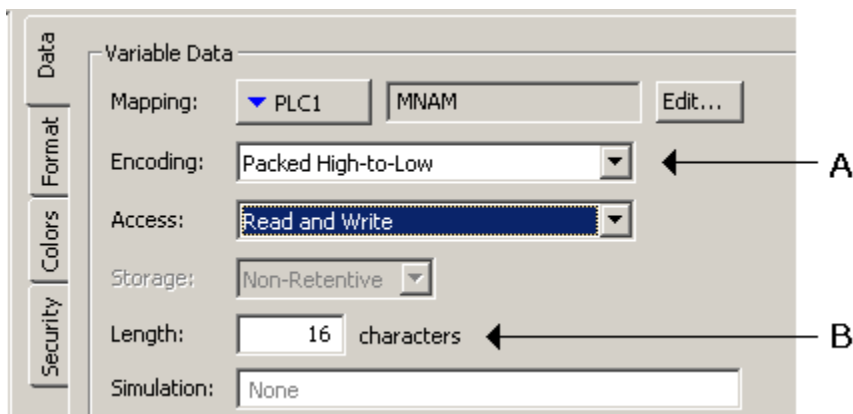
INFO: Reference numbers to notes for additional information.

TABLE SELECTIONS: Clicking an item with a prefix selects it. Clicking a header opens the associated list, whether it be sorted alphabetically, function, or keyword. **LIST – ALPHABETICAL, LIST – FUNCTION, LIST – KEYWORD** select the type of sorting. A selected list always appears at the top of the dialog box, with the remaining headers listed beneath. For **LIST – KEYWORD**, enter the text, e.g. analog, and all items with that text in the description will be displayed.

INFO:

1) These items require a number to specify an I/O selection. Not all numeric choices are necessarily supported. An '_' in **Command** indicates the position of the selected number in the transmitted command.

2) These items must be assigned to **String** tags. Configure the tag properties as shown below:



2A: Encoding must be set to Packed High-to-Low for proper operation.
2B: Length should be set for the number of characters desired.

3) ECOD (ERRCODE) – FAULT MESSAGE STRING: Returns up to the first 39 characters of fault messages. Therefore, set the Length, as shown above, to no more than 40.

4) LTCH, LTCX (LATCH, LATCHX) – LATCHED POSITIONS:
 Select 0 for the element value to request the 16 bit Latched Position.
 Select 1 for the element value to request the 32 bit Latched Position.

5) LED (LED1, LED2, LED3) – LED STATUS: Select the desired display.

6) OACC, ODEC (O_ACCn, O_DECn) – ACCELERATION and DECELERATION times for Motion Task 0: Select the desired time.

7) Requests for a list of values: Select the number of the desired value in the list.

8) SWE, SWEN – POSITION REGISTER DATA: Select the desired register. The '_' in the **SWE_N Command** indicates the position of the number in the transmitted command.

9) USER – USER DEFINED COMMAND STRING:

WARNING: The programmer must ensure the safety and validity of the strings to be sent. An operator must NEVER be allowed to enter a string manually. Attempting to control a drive using this command is not recommended. The driver does not validate any transmission or response.

USER is selected either for commands that are not present in the list, or for new commands added subsequently. The programmer defines the string to be sent, and executes a write. The driver will append the terminating Line Feed and Carriage Return. If **USER** is configured for Read and Write, the subsequent reply from the device will appear in the place of the sent data. The programmer may also configure two tags for **USER**, one Read-Only, one Write-Only.

Example:

USERTAGW is assigned to **USER** as Write-Only. USERTAGR is assigned to **USER** as Read-Only. For both, Encoding is set to Packed High-to-Low, and Length is set to 80 (The maximum permissible). See Info 2, above.

USERTAGW = "ACC"

sends ACC followed by a Line Feed and Carriage Return.

The device replies with:

ACC 12345

In USERTAGR, ACC 12345 will appear in the display.

Only the most recent response to **USER** will be accessible. The programmer must arrange for the returned string to be saved and/or parsed, if necessary.

'Escaped' characters (e.g. \t for HorizontalTab = 0x8) are not supported. The programmer must add those characters individually when constructing the string.

10) INAD – A/D Channels Input counts. Select the number of the function.

0 – Heat Sink Temperature

4 – Motor Temperature

1 – Ambient Temperature

5 – DC link/DC bus voltage

2 – Regen Power

6 – Supply voltage

3 – I_U

7 – I_W

RS-232 Connections

Lexium 15 MP	Signal	Signal	G3
2	Tx	Rx	5
3	Rx	Tx	2
5	0V	0v	3/4

S300	Signal	Signal	G3
2	Tx	Rx	5
3	Rx	Tx	2
5	0V	0v	3/4

Configuration Version 1.2 - November 6 2008.

Increased IN, INMO, INTR, O, OMOD, OTRI to 20. Added INAD, L16P, L32P, PASS, PVXP, and RABS commands.