Intelligent Actuator XSEL Controller

Information Sheet for Crimson v2.0

Compatible Devices

- Intelligent Actuator XSEL Controllers

Verified Device

- IS-S-X-M-16-60 150-T1-ABN

Accessible Data

Mnemonic	Function	R/W	Information
C201A	Version Code Inquiry - Model	R	
C201B	Version Code Inquiry - Unit	R	
C201C	Version Code Inquiry - Version	R	
C201D	Version Code Inquiry - Y/M/D	R	Decimal Value – Ex. 20040806
C201E	Version Code Inquiry - H/M/S	R	Decimal Value – Ex. 125959
C208	Number of Active Points	R	
C209A	Active Point Acceleration	R	
C209B	Active Point Deceleration	R	
C209C	Active Point Velocity	R	
C209D	Active Point Position	R	Note 1
C209E	Active Point Axis Pattern	R	
C20B	Input Port – Input Bytes	R	Note 2
C20BB	Input Port – Input Bits	R	
C20C	Output Port – Output Bytes	R/W	Note 2
C20CB	Output Port – Output Bits	R/W	
C20D	Flag – Flag Bytes	R/W	Note 2
C20DB	Flag – Flag Bits	R/W	
C20E	R/W Integer Variable	R/W	Note 4
C20F	R/W Real Variable	R/W	Note 3, Note 4
C212A	Axes Status	R	
C212B	Axis Sensor Input Status	R	
C212C	Axes related error code	R	
C212D	Encoder Status	R	
C212E	Current Position	R	Note 1
C213A	Program Status - Status	R	
C213B	Program Status - Step	R	
C213C	Program Status - Error	R	

C213D	Program Status - Error Step	R	
C215A	System Status - Mode	R	
C215B	System Status - Error High	R	
C215C	System Status - Error New	R	
C215D	System Status - Byte 1	R	
C215E	System Status - Byte 2	R	
C215F	System Status - Byte 3	R	
C215G	System Status - Byte 4	R	
C232F	Servo OFF <Axis Pattern>	W	Set Data = Axis Pattern
C232N	Servo ON <Axis Pattern>	W	Set Data = Axis Pattern
C233A	Homing End Search Velocity	W	Note 5
C233B	Homing Creep Velocity	W	Note 5
C233C	EXECUTE Homing <Axis Pattern>	W	Set Data = Axis Pattern
C234A	Absolute Move Acceleration	W	Note 5
C234B	Absolute Move Deceleration	W	Note 5
C234C	Absolute Move Velocity	W	Note 5
C234D	Absolute Move Position	W	Note 5, Note 1
C234E	EXECUTE Absolute Move <Axis Pattern>	W	Set Data = Axis Pattern
C235A	Relative Move Acceleration	W	Note 5
C235B	Relative Move Deceleration	W	Note 5
C235C	Relative Move Velocity	W	Note 5
C235D	Relative Move Position	W	Note 5, Note 1
C235E	EXECUTE Relative Move <Axis Pattern>	W	Set Data = Axis Pattern
C236A	Jog Acceleration	W	Note 5
C236B	Jog Deceleration	W	Note 5
C236C	Jog Velocity	W	Note 5
C236D	Jog Position	W	Note 5
C236E	Jog Direction <0/1 = Pos/Neg>	W	Note 5
C236F	EXECUTE Jog <Axis Pattern>	W	Set Data = Axis Pattern
C237A	Move to Point Acceleration	W	Note 5
C237B	Move to Point Deceleration	W	Note 5
C237C	Move to Point Velocity	W	Note 5
C237D	Move to Point - Point Number	W	Note 5
C237E	EXECUTE Move to Point <Axis Pattern>	W	Set Data = Axis Pattern
C238	Stop and Cancel <Axis Pattern>	W	Set Data = Axis Pattern
C244A	Write 1 Point – Acceleration		Note 7
C244B	Write 1 Point – Deceleration		Note 7
C244C	Write 1 Point – Velocity		Note 7
C244D	Write 1 Point – Axis Positions		Note 7
C244E	Write 1 Point – <Point Number>		Note 7
C244F	Write 1 Point – <Axis Pattern<<16,Point>		Note 7
C246	Clear Point Data <Count to clear>	W	Set Data = Number of Points
C252	Alarm Reset	W	Any Write will execute
C253	Execute Program	W	Any Write will execute
C254	Stop Program	W	Any Write will execute
C255	Hold Program	W	Any Write will execute
C256	Execute Program 1 Step	W	Any Write will execute
C257	Resume Program Execution	W	Any Write will execute
C25B	Software Reset	W	Any Write will execute
C25C	Drive Power Recovery	W	Any Write will execute
C25E	Hold Release	W	Any Write will execute

C262	Speed Change <Speed>	W	Write new speed
C2A1A	Axis Status Request – Axis Number/Type	R	
C2A1B	Axis Work Coordinate System	R	
C2A1C	Axis Tool Coordinate System	R	
C2A1D	Axis Common Status	R	
C2A1E	Axis Pattern Response	R	
C2A1F	Axis Status	R	
C2A1G	Axis Sensor Input Status	R	
C2A1H	Axis Relation Error Code	R	
C2A1I	Axis Encoder Status	R	
C2A1J	Axis Present Location	R	
C2D4A	Absolute Move – Acceleration		NOTE 8
C2D4B	Absolute Move – Deceleration		NOTE 8
C2D4C	Absolute Move – Speed		NOTE 8
C2D4D	Absolute Move – Positioning Type		NOTE 8
C2D4E	Absolute Move – Axis Coordinate Data		NOTE 8
C2D4F	EXECUTE Absolute Move <Axis Pattern>		NOTE 8
C2D5A	Relative Move – Acceleration		NOTE 8
C2D5B	Relative Move – Deceleration		NOTE 8
C2D5C	Relative Move – Speed		NOTE 8
C2D5D	Relative Move – Positioning Type		NOTE 8
C2D5E	Relative Move – Axis Coordinate Data		NOTE 8
C2D5F	EXECUTE Relative Move <Axis Pattern>		NOTE 8
C2D6A	Move To Point Move – Acceleration		NOTE 9
C2D6B	Move To Point Move – Deceleration		NOTE 9
C2D6C	Move To Point Move – Speed		NOTE 9
C2D6D	Move To Point Move – Positioning Type		NOTE 9
C2D6E	Move To Point Move – Point Number		NOTE 9
C2D6F	EXECUTE Move To Point <Axis Pattern>		NOTE 9
C200	Test Call	R	Returns 1 if successful
CERR	Latest Error	R/W	Note 6

Note: Axis Pattern is a binary pattern. E.g. 3 is both Axis 1 and Axis 2.

NOTES

1. If the designated axis is not represented in the Axis Pattern, the value 0 is returned.

2. The address must be configured as a multiple of 8.

3. The XSEL uses 64-Bit real numbers, and the G3 uses 32-Bit real numbers. The driver converts the numbers to the nearest representation possible. The decrease in resolution converting from a 64-Bit to a 32-Bit is approximately 1 unit in 10 million.

4. For Integer and Real Variables, not all values selectable are necessarily available in the controller. Refer to the specifications of the unit.

5. Values written to these commands are stored by the driver, and sent when the Axis Pattern is written to the corresponding "EXECUTE…" command. It is especially important that the stored position values are correct for the axis pattern chosen.

6. If the XSEL returns an error response, the error number is placed in this item for reading. If the value of CERR is 0xFFFF, the response transmission was faulty in some way. CERR can be set back to 0 by any write.

7. WRITE POSITION: The Acceleration, Deceleration, and Velocity are set in C244A, C244B, and C244C, respectively. Data for up to 8 axes are set in C244D.
There are two ways for the programmer to set up the actual write. Method one, is to select a fixed axis pattern in C244E, and enter the desired point number in the data field of that item. Method two, is to use C244F, writing to that item the sum of the point number and the desired axis pattern shifted up by 16. The currently stored value is returned on a read of A-D.

8. SCARA – MOVE ABSOLUTE (MOVE RELATIVE): The Acceleration, Deceleration, Speed, and Positioning Type are set in C2D4A-C2D4D (C2D5A-C2D5D), respectively. Data for up to 8 axes are set in C2D4(5)E. The information is sent when an Axis Pattern is written to item C2D4(5)F. This command is valid only for units accepting SCARA commands. The currently stored value is returned on a read of A-E.

9. SCARA – MOVE TO POINT: The Acceleration, Deceleration, Speed, and Positioning Type are set in C2D6A-C2D6D, respectively. The Point Number is set in C2D6E. The information is sent when an Axis Pattern is written to C2D6F. This command is valid only for units accepting SCARA commands. The currently stored value is returned on a read of A-E.

Cable Information

RS232 Connection

G3 RS232 Port	IAI X-SEL Programming Cable
5 (Tx)	2 (Rx)
2 (Rx)	3 (Tx)
3/4 (Comm.)	5 (Comm.)