

Alpha Gear Ternary Drives

Information Sheet for Crimson v2.0

Compatible Devices

- Alpha Gear Ternary Servo Drives

Verified Device

- TXBA046AAB-XXXNXX-001 / TLHA046XXX-610X01-001

Device Options – Select the desired Axis number.

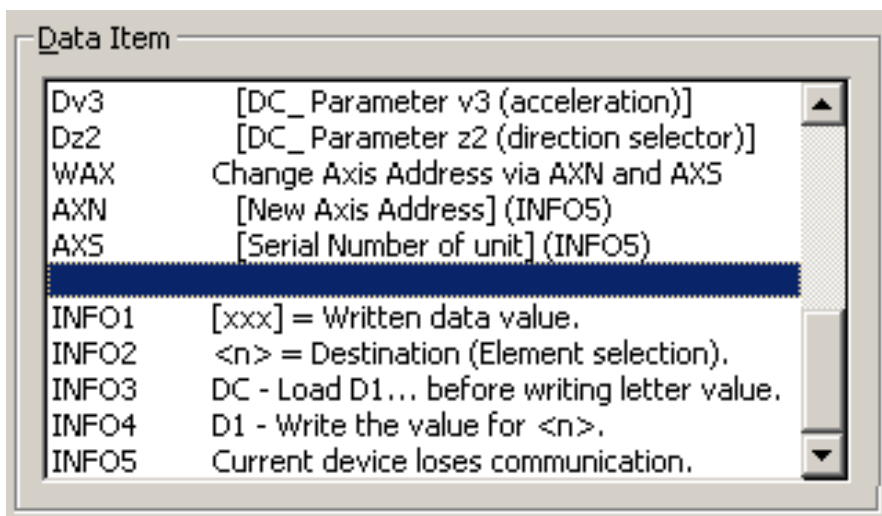
Accessible Data

Prefix	Description	Minimum	Maximum
R	Read/Write Register	0	0x7FFF
STAT	Internal Status Flag (R/O)	None	None
ALRM	Current Alarm/Warning Code (R/O)	None	None
MPI	Monitored Input PIO Signal Status (R/O)	None	None
MPO	Monitored Output PIO Signal Status (R/O)	None	None
Q1_	[Non-Volatile Point] -> Bank <n>	0	31
Q2	[Bank Number] -> Execution	None	None
Q3_	[NonV Point] -> Execution via Bank <n>	0	31
Q4	Move Execution to [Bank Number]	None	None
V5_	[Bank Number] -> Non-Volatile <n>	0	31
V6	Execution -> [Non-Volatile] via Bank <n>	0	31
DC_	Direct Command [Direct Command Letter]	None	None
D1	[DC_ Parameter 1] for <n>	'a'	'z'
DI2	[DC_ Parameter I2 (moving current limit)]	None	None
Dv2	[DC_ Parameter v2 (velocity)]	None	None
Dv3	[DC_ Parameter v3 (acceleration)]	None	None
Dz2	[DC_ Parameter z2 (direction selector)]	None	None
WAX	Change Axis Address via AXN and AXS	None	None
AXN	[New Axis Address] (INFO5)	None	None
AXS	[Serial Number of unit] (INFO5)	None	None

IMPORTANT – The driver does not, in general, verify any value to send to the servo. The programmer is responsible for guaranteeing that only safe values can be transmitted.

Additional Information:

To aid the memory of the programmer, INFO1 to INFO5 are included:



INFO1 – An item in []'s indicates the programmer is to arrange to write a valid value into that item. E.g. in command Q1, [Non-Volatile Point] means to enter the value of the Non-Volatile Point Bank number in order to transfer its contents to the selected bank.

INFO2 – An item with <>'s indicates the programmer chooses the desired destination from the Element Dialog box. E.g., command Q3 moves the [Non-Volatile Point] data through the display window <n>, specified by the programmer's selection. The Minimum and Maximum values apply to <n>.

INFO3 – The Direct Command is used to send single lower-case letter commands to the servo. The valid selections are:
"a d g i j l m n o p q r s t v x z". Refer to the manual for their operation.
The programmer arranges for the numeric value of the letter (e.g., a = 0x61, or 97 decimal) to be written. The driver ignores any value not in the list.

INFO4 – D1 contains the (first) parameter for “a d g i j l m o p q r s v x z”.
 E.g., ‘j’ requires the distance for a commanded jog. In this case, ‘j’ should be selected in the Element dialog box, and the programmer arranges for the desired jog distance to be written to D1 before writing the hex value 0x6A, or decimal 106, to the DC command. NOTE: ‘n’ and ‘t’ do not use a parameter.

D12, Dv2, Dv3, and Dz2 indicate that the l, v, and z, commands require multiple values.

For command ‘l’, D1 is the stopped current limit, D12 is the moving current limit.
 For command ‘v’, D1 is the command function selector code, Dv2 is the velocity commanded and Dv3 is the acceleration commanded.

For command ‘z’, D1 is the boundary limit for zone signal, and Dz2 is the direction selector. Written values are stored in the driver memory. Each letter’s storage is independent of other letters, and other devices that use those letters.

NOTE: Writing a new Axis Number via Direct Command ‘x’ will also cause a loss of communication.

INFO5 – WAX, AXN, AXS permit the change of an axis number in a multi-axis system. The new axis address is set in AXN, and the device serial number from the serial interface module is entered into AXS. Any non-zero value written to WAX will execute the command. The current device selection will lose communication. The programmer must include a device with the new address in order to continue accessing the servo. NOTE: Writing a new Axis Number via Direct Command ‘x’ will also cause a loss of communication.

Read/Write functionality:

R selections are read/write.

STAT, ALRM, MPI, and MPO, are read-only values.

Q1, Q2, Q3, Q4, V5, and V6, each return –1, (0xFFFFFFFF) when read.

DC and WAX each return 0 when read.

Single letter parameters, AXN, and AXS, return the most recently written value.

SERIAL CONNECTION

RS232

G3	ALPHA GEAR CABLE TBG001-001
2	2
5	3
3/4	5