

Dual axis servo module

SERVO

M1-40A

2 axes servo controller with high speed registration

- ▶ High-speed, 32-bit motion processor
- ▶ Optically and electrically isolated
 - Each channel has an electrically isolated analog ground
 - Each channel is individually optically isolated
- ▶ Precision 16-bit command signal
- ▶ Updates both position loops in 500 μ sec
- ▶ < 1 μ sec registration response

General specifications

Connector	Removable
Connection type	Screw terminal
Terminal wire size	14 – 22 AWG
Test point	All connections
Module size	2 controller bays

Isolation rating	500 VDC
Operating temperature	
Horizontal installation ¹	0 – 50°C
Vertical installation ¹	0 – 45°C
Storage temperature	-25 – 85°C
Humidity	5 – 95% non-condensing
5100 equivalent part number	SS

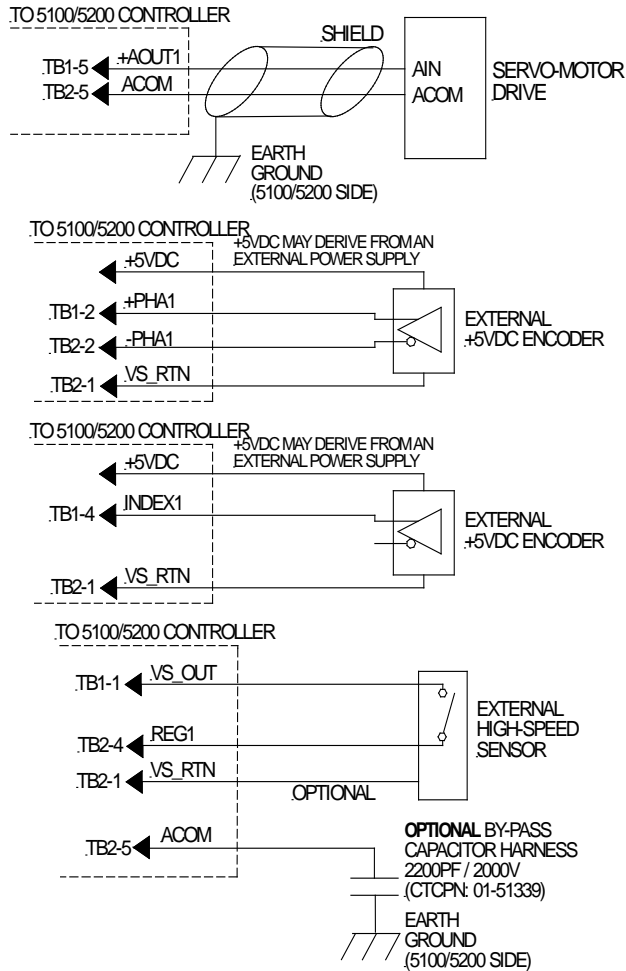
1. Refer to the applicable controller datasheet for proper mounting instructions.

Performance specifications

Parameter	Value
Position range	$\pm 2,147,483,647$ counts
Velocity range	± 6 M counts/sec
Position resolution	± 1 count
Velocity resolution	± 1 count/sec
Max acceleration	130 M counts/sec ²
Position loop update	500 μ sec/2 axes
Command type	Analog torque or velocity
Command signal voltage	Bipolar single-ended ± 10 V (5mA max)
Command resolution	16-bit
Encoder feedback type	5 V – differential quadrature
Max input voltage	6 VDC

Parameter	Value
Encoder Turn ON threshold	3.0 VDC
Encoder Turn OFF threshold	0.125 VDC
Encoder termination resistor	220 Ω (10%)
Encoder index signal	5 VDC single-ended
Registration input type	VDC sourcing
Registration response	<1 μ sec
Registration Turn ON threshold	0.53* VS
Registration Turn OFF threshold	0.32* VS
Max registration voltage	VS
Max ON registration current	2.6 mA DC
Registration input resistance to VS_RTN	10 K Ω (10%)

Typical Applications



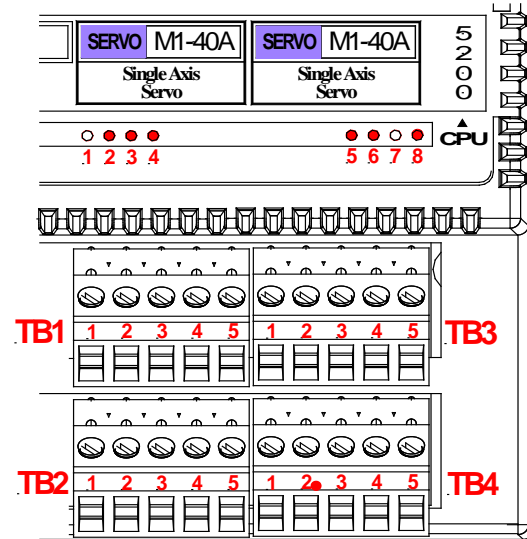
	5100	5200
Minimum hardware revision	A, B	A, B
Minimum firmware revision	4.18	4.18
Minimum operating system revision	4.04	5.06

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Notes

- Shields must be terminated on the controller side of the cable.
- External power supply commons must be tied to the controller's supply voltage return (VS_RTN) and / or analog common (ACOM).
- For register and programming information, refer to the M1-40A Applications Guide.
- The information and illustrations contained herein are the property of Control Technology Corporation and are subject to change without notice. Data based on VS = 24VDC @ 25°C unless otherwise noted. For additional information and/or updates visit www.ctc-control.com.
- VS refers to the voltage supply of the controller.

Connections



I/O Terminations

Axis 1		Axis 2	
TB1-1	VS_OUT	TB3-1	VS_OUT
TB1-2	LED1 +PHA1	TB3-2	LED5 +PHA2
TB1-3	LED2 +PHB1	TB3-3	LED6 +PHB2
TB1-4	LED3 INDEX1	TB3-4	LED7 INDEX2
TB1-5	+AOUT1	TB3-5	+AOUT2
TB2-1	VS_RTN	TB4-1	VS_RTN
TB2-2	-PHA1	TB4-2	-PHA2
TB2-3	-PHB1	TB4-3	-PHB2
TB2-4	LED4 REG1	TB4-4	LED8 REG2
TB2-5	ACOM	TB4-5	ACOM