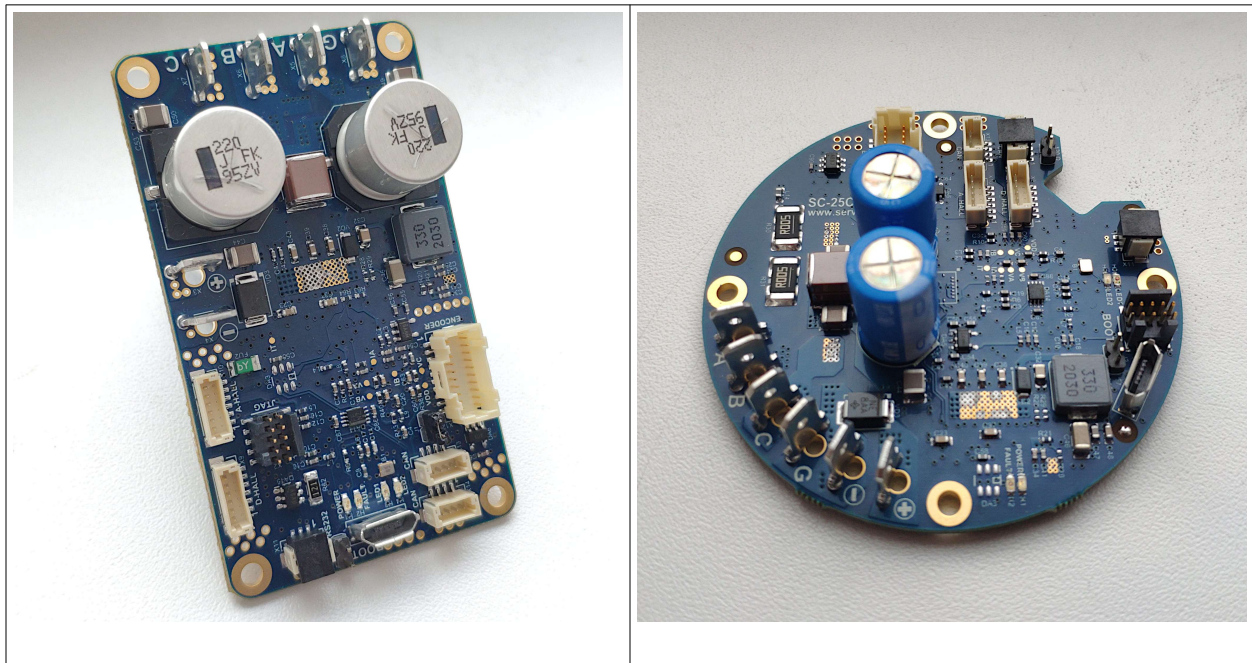


Connecting RLS AksIM-2 Encoders with BISS-C interface to Servosila SC-series Servo Drives

Technical Note

Revision B



www.servosila.com/en/motion-control

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Overview

This technical note is written in regards to RLS AksIM-2 magnetic 20-bit absolute encoder with a BISS-C interface.

RELEVANT PART NUMBERS:

MB064DCC20BDNT00 (encoder read head, a 20bit encoder)

MRA064BC040DSE00 (magnetic ring)

The encoder's output rate has been found sufficient to be used for servo control, direct drive control, torque control and field-oriented control (brushless motor commutation) purposes. The encoder was successfully tested in those test scenarios.

BISS-C interface: settings

The following configuration settings of the SSI/BISS-C interface of Servosila SC-series Servo Drives have been found to work well with the given model of RLS AksIM-2 magnetic absolute encoder.

Command & Telemetry			
Configuration			
Oscilloscope			
Configuration Parameter	Value	Units	Power Cycle
Payload: Viscous Damping Constant	0.0000999999975	Nm/Hz	
Payload: Moment of Inertia (Rotor and Payload)	0.0000023	kg*m2	
Hall Sensors	0	0 or 1	
Motor Encoder	0	-	Power Cycle
Servo Encoder	2	-	Power Cycle
Gearbox: Reduction Ratio	1	-	
> Control Laws			
> Features			
> Work Zone			
> Brake			
> Fault Management			
> Peripheral: Hall Sensors			
> Peripheral: Quadrature Encoder			
▼ Peripheral: SSI/BISS-C Encoder			
counts per revolution	1048576	counts	Power Cycle
encoder bias vs. electrical position	0	counts	
inverted installation	0	0 or 1	
request frequency: divider	4	-	Power Cycle
clock frequency: divider	89	-	Power Cycle
clock polarity	1	0 or 1	Power Cycle
clock phase	1	0 or 1	Power Cycle
total number of bits in packet	45	-	Power Cycle
POSITION field: start bit	17	-	
POSITION field: length	20	-	
POSITION field: is inverted	0	0 or 1	
CRC field: is used	1	0 or 1	
CRC field: start bit	39	-	
CRC field: length	6	-	
CRC field: is inverted	1	0 or 1	
CRC input: start bit	17	-	
CRC input: length	22	-	
CRC input: is inverted	0	0 or 1	
ERROR bit: is used	1	0 or 1	
ERROR bit: bit position	37	-	
ERROR bit: is inverted	1	0 or 1	
WARN bit: is used	1	0 or 1	
WARN bit: bit position	38	-	
WARN bit: is inverted	1	0 or 1	
> Peripheral: SPI Encoder			



*Servo Actuators designed around Servosila SC-series
Servo Drives*

YouTube: <http://www.youtube.com/user/servosila>

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