

SSI / SPI Adapter Datasheet

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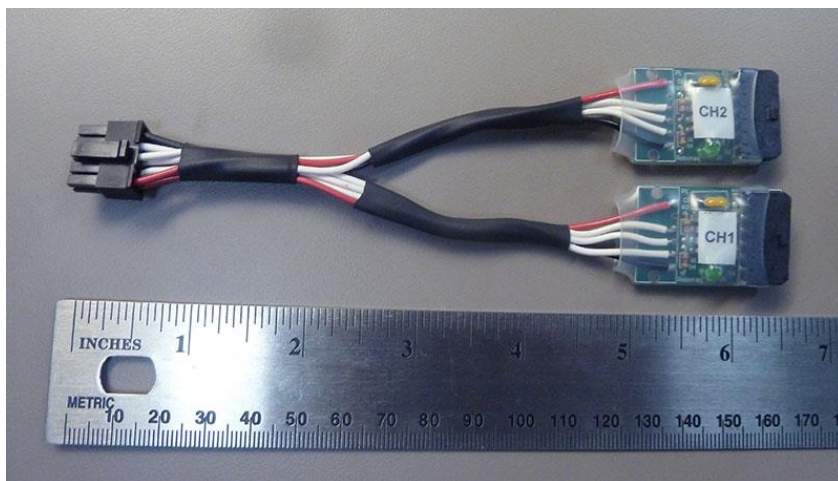
Introduction

SSI sensors are absolute encoders that send their data using Synchronous Serial Interface (SSI). Using SSI protocol offers reduced wiring and EMI immunity. SSI sensors as absolute encoders they report a signal respective to the shaft position and can be used in both multi-turn and single-turn applications. Roboteq controllers support the use of SSI sensors with resolution up to 16 bits. The SSI / SPI Adapters convert the SSI signal to SPI by synthetically generating a CS (Chip Select) signal from the SSI Clock. This allows the use of SSI encoders with Roboteq products.

Two versions are available. The single channel adapter for the Hall Sensor connector for products such as the SBL23XX, or the GBL26XX.



The second version is a Dual Output. This connects to the FBL23XX and HBL23XX Series controllers.



Connection Pinouts

These tables detail the pinout configuration for both types of Adapters. This is the pinout of the connector on the adapter board:

Single **output** configuration (PCB connector P2) NOTE: Pin 1 is square pad on PCB (Right side looking at pins)

Pin 1	+5V
Pin 2	CLK +
Pin 3	CHIP SEL
Pin 4	DATA +
Pin 5	N/C
Pin 6	GND

Pinout of the **input** connections for the single row input connector for **PCB** (Square pin of P1):

Pin 1	GND
Pin 2	DATA +
Pin 3	DATA -
Pin 4	CLK +
Pin 5	(N/C)
Pin 6	5 V

Pinout for the input connections for the cable connector which connects to motor controller: (SBL, GBL, etc.)

Note: Pin 1 on RIGHT when looking at sockets on Adapter connector. Pin 1 is on LEFT when looking at connector on motor controller.

Pin 1	5v
Pin 2	CLK -
Pin 3	CKK+
Pin 4	DATA-
Pin 5	DATA+
Pin 6	GND

Dual **output** configuration. (PCB connector P2) This is the pinout of the connector on the adapter board. NOTE: Pin 1 is square pad on PCB (Right side looking at pins):

Both **outputs** configuration NOTE: Pin 1 is square pad on PCB (Right side looking at pins)

Pin 1	+5V
Pin 2	CLK +
Pin 3	CHIP SEL
Pin 4	DATA +
Pin 5	N/C
Pin 6	GND

Pinout of the **input** connections for the single row input connector for both **PCB's** (Square pin of P1):

Pin 1	GND
Pin 2	DATA +
Pin 3	DATA -
Pin 4	CLK +
Pin 5	(N/C)
Pin 6	5 V

Pinout for the **input** connections for the cable connector which connects to motor controller: (FBL, HBL, etc.)

Row 1, Pin 1	5v
Row 1, Pin 2	CLK-
Row 1, Pin 3	DATA 2-
Row 1, Pin 4	DATA 1-
Row 1, Pin 5	GND
Row 2, Pin 1	5V
Row 2, Pin 2	CLK+
Row 2, Pin 3	DATA 2+
Row 2, Pin 4	DATA 1+
Row 2, Pin 5	GND

Looking at female pins of connector on adapter

Row 1 – top

Row 2 - bottom

5	4	3	2	1
5	4	3	2	1

Looking at male pins on connector on motor controller

Row 1 – top

Row 2 - bottom

1	2	3	4	5
1	2	3	4	5