

### Introduction

FBs-BSSI is one of the special function expansion boards of FATEK FBs series PLC. By applying the FBs-BSSI board, the FBs PLC can read out the position data generated by the absolute position sensing device which has the Synchronous Serial Interface (SSI). SSI interface is driven by the digital differential signal which can reduce the possibility of error occurrences caused by the interference of electric noise.

### Interface Signal

Pin No.	Signal Name	Function Description
1	DI0+	Channel #0 Data, positive polarity signal
2	DI0-	Channel #0 Data, negative polarity signal
3	DI1+	Channel #1 Data, positive polarity signal
4	DI1-	Channel #1 Data, negative polarity signal
5	CLK0+	Channel #0 Clock, positive polarity signal
6	CLK0-	Channel #0 Clock, negative polarity signal
7	CLK1+	Channel #1 Clock, positive polarity signal
8	CLK1-	Channel #1 Clock, negative polarity signal

### Specification

**Total Channel-** 2 channels

**Clock Frequency** – near 200KHz

**Data Update Rate-** less than 1ms

**Input Data Bit-** Multiple bit modes can be chosen

**Input Data Encoding Format-** Binary or Gray Code

**Error Indication-** Signal or wiring error

**Signal Isolation-** Output: None Input: Opto-coupler

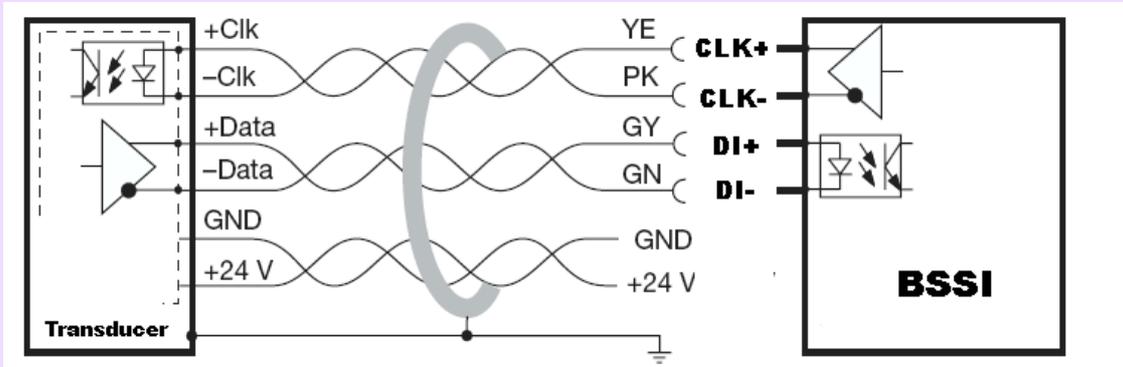
**Indicators-** Run, Module communication status and error LEDs

**Internal Power Consumption-** 5V, 100mA

**Working Temperature-** 0 ~ 60 °C

**Storage Temperature-** -20 ~ 80 °C

### Sample Wiring Diagram



### PLC Control

The FBs-BSSI expansion board communicates with PLC via following registers.

Register	Function
DD4072	Channel #0 reading data* <sub>1</sub> .
DD4074	Channel #1 reading data* <sub>1</sub>
D4076	<p>Working mode register</p> <p>Bit #0(b0) – <b>Total Channel Processed</b> =0, Single channel. =1, Dual channel</p> <p>Bit #1 (b1) – <b>Input Data encoding</b> =0, Binary. =1, Gray Code</p> <p>Bit #2~7(b2~b7) – <b>Input data format</b> =0, 24 bit signed value =1, 25 bit signed value =2, 18 bit un-signed value =3, 27 bit un-signed value =4, 30 bit un-signed value</p>

Note(\*<sub>1</sub>): When signal or wiring error occurs, the reading value will be set to 40000000H(Hex)

### LED Idicators

D1 -Run. Green LED, normally flash.

D2 – CPU communication TX signal. Red LED, normally flash

D3 - CPU communication RX signal. Green LED, normally flash

D4, D5 –Channel #0 and #1 error indication. Red LED, Lit when corresponding channel error occurs.