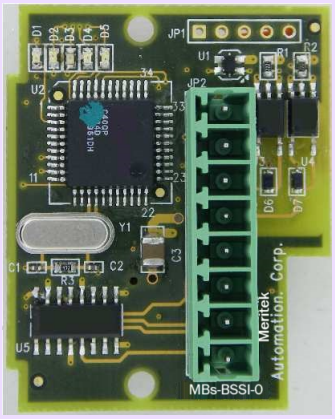
MBs-BSSI

Synchronous Serial Interface
Expansion Board



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 ℃
Storage Temperature- -20 ~ 80 ℃

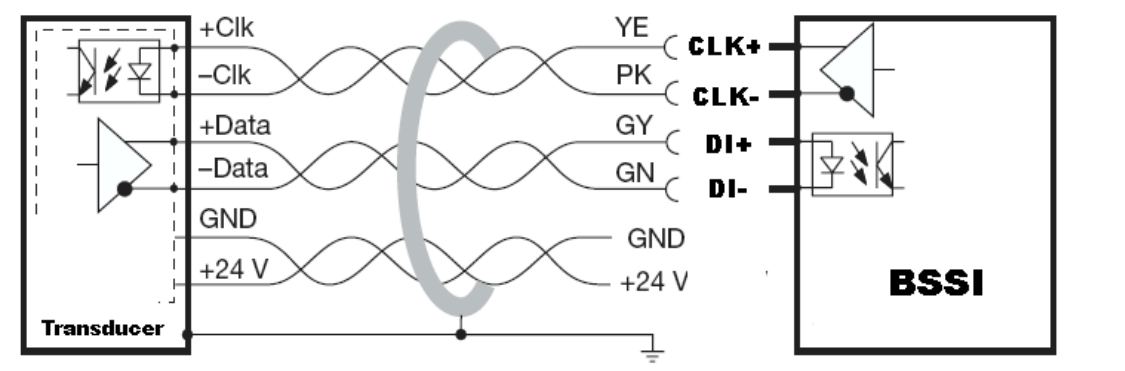
Introduction

MBs-BSSI is one of the special function expansion boards of MERITEK MBs series PLC. By applying the MBs-BSSI board, the MBs 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

Sample Wiring Diagram



PLC Control

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

Register	Function
DD4072	Channel #0 reading data*1 .
DD4074	Channel #1 reading data*1
D4076	Working mode register Bit **#0**(b0) – **Total Channel Processed** =0, Single channel. =1, Dual channel Bit **#1** (b1) –**Input Data encoding** =0, Binary. =1, Gray Code Bit **#2~7**(b2~b7) – **Input data format** =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

Note(*1): 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.