SED1

SINGLE-ENDED – DIFFERENTIAL ENCODER INTERFACE

1. DESCRIPTION

Single-ended – differential encoder interface SED1 (Figure 1.1 and Figure 1.2) uses for connection of single-ended (optionally differential) incremental encoders to DC servo drive DCS-3010(-HV) or DC servo drive with analog output DCS-100-A.

Adapter contains a linear drive which single-ended input signal from incremental encoder converts to differential (complementary) signal. In that way, signal from the encoder becomes significantly immune to ambient electromagnetic interferences.

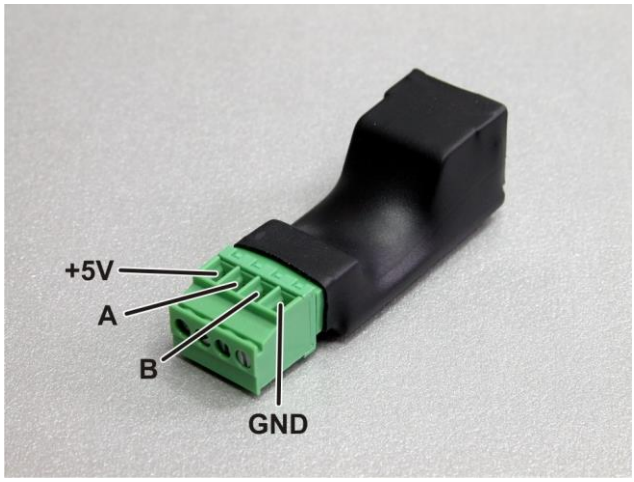


Figure 1.1

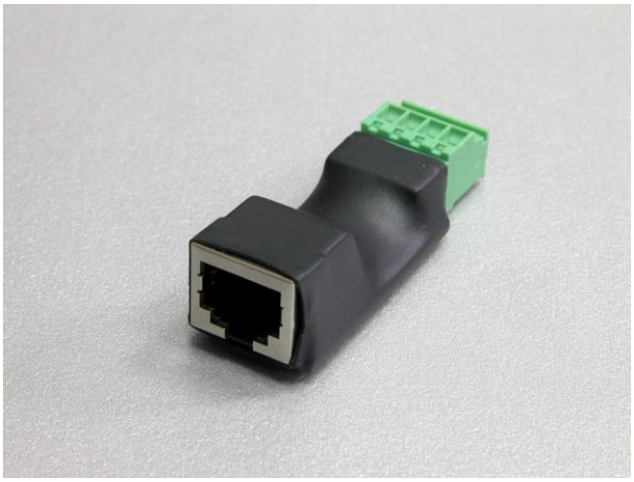


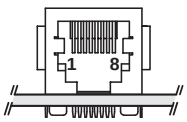
Figure 1.2

2. CONNECTION OF ENCODER INTERFACE SED1

Single-ended – differential encoder interface SED1 has 2 connectors on it:

- Removable four-pole connector for connection with incremental encoder. Arrangement of pins of this connector is shown in Figure 1.1. On A and B inputs are set pull-up resistors of 4.7 kΩ, and
- Eight-pin RJ45 connector for connection with DC servo drive. Arrangement of pins of this connector is given in Table 2.1.

Table 2.1 Description of pins of eight-pin RJ45 connector



Pin No.	Name	Description	Function
1	A+	A encoder signal	Encoder connection
2	A-	A\ encoder signal	
3	B+	B encoder signal	
4	B-	B\ encoder signal	
5	NC	-	
6	NC	-	
7	+Ve	Power supply of encoder 5 V / 250 mA max	
8	GND	GND – Encoder	

Connection of single-ended incremental encoder to DC servo drive via interface SED1 is shown in Figure 2.1. Incremental encoder connects on interface SED1 via four-pole connector. It is recommended that the cable length between the encoder and SED1 interface be as small as possible.

To minimize the influence of electromagnetic interferences, it is recommended to use shielded Cat 5e network cable for connection between encoder interface SED1 and DC servo drive DCS-3010(-HV) or DC servo drive DCS-100-A. Cable that connects the encoder should not exceed the length that the application requires.

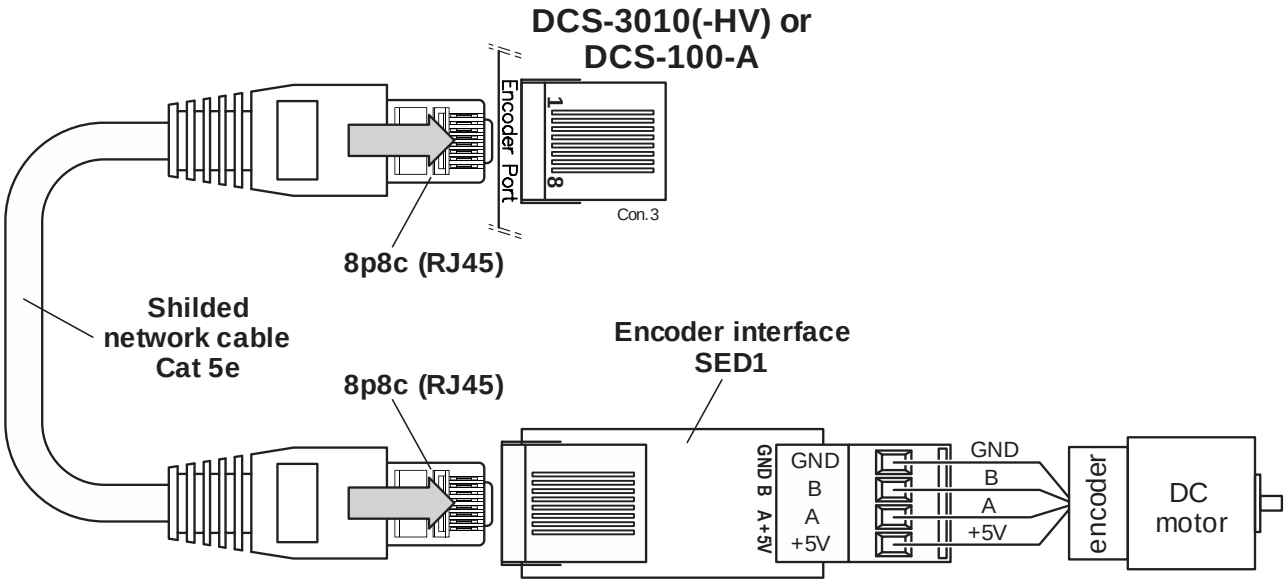


Figure 2.1

Document revision:

- Ver. 1, February 2014, English version
- Ver. 1.01, March 2014, Minor revision
- Ver. 1.1, November 2020, Minor revision