

Gold DC Bell

Gold DC Bell Cable Kit (EtherCAT and CAN)



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Revision History

Version	Date	Details
Ver. 1.000	June 2015	Initial release



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Chapter 1: Introduction

This document provides the wiring details for the cables used to connect Elmo's Gold DC Bell servo drive with the end-user application. The servo drive-side pinouts are provided in the *Gold DC Bell Digital Servo Drive Installation Guide*.

The cables come in one length: 2 meters (6 ½ feet).

1.1. Cable Kit

The catalog number of the Gold DC Bell cable kit is CBL- GDCWHIKIT02.

NOTE:

It should be noted that this kit does not include any communication cables. Please purchase these cables separately.

This cable kit includes the following cables:

ELMO Part Number	Function
CBL-GPORTA-B2	Feedback Port A
CBL-GPORTB-B2	Feedback Port B
CBL-GPORTCIO-B2	Port C and I/O
CBL-GSTOCOM-B2	STO

NOTE:

The CAN Terminator (ELMO Part Number ACC-TRM-01) must be separately requested when the servo drive is located at the end point of the customer network. For details of the operation of the CAN Terminator please refer to Chapter 6: CAN Terminator (ACC-TRM-01).

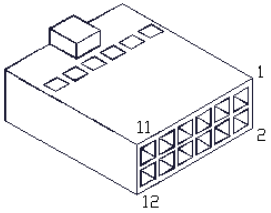


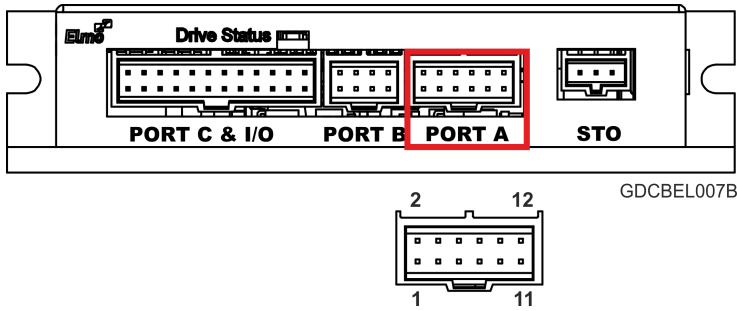
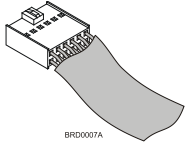
Chapter 2: Feedback Port A Cable (CBL-GPORTA-B2)

The feedback port A cable is made from a 6-pair 24-AWG shielded twisted-pair cable. There is one type of feedback cable, which uses a 12-pin Molex 2.54 mm pitch plug to connect to the servo drive. The part number (P/N) of this cable is CBL-GPORTA-B2.

The feedback port A cable is open on the motor side so that it can be connected to the motor-feedback connector.

The general pinout of the feedback port A cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	+5V	Brown	Pair	 <p>12-Pin Molex Plug</p>
2	COMRET	White		
3	PortA_ENC_A+	Cyan	Pair	
4	PortA_ENC_A-	Orange		
5	PortA_ENC_B+	Purple	Pair	
6	PortA_ENC_B-	Black		
7	PortA_ENC_INDEX+	Red	Pair	
8	PortA_ENC_INDEX-	Blue		
9	HA	Green		
10	HB	Yellow		
11	HC	Pink		
12	PE	-	Drain Wire	

Pin Positions	
 <p>12-Pin 2.54 mm Pitch Molex</p>	 <p>12-Pin Molex Plug</p>



Note: The specific functionality of each pin is described fully in the *Gold DC Bell Digital Servo Drive Installation Guide*.

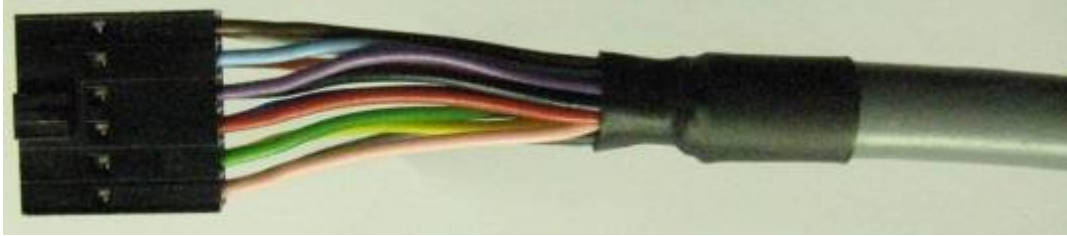


Figure 1: Single-Sided Main Feedback Cable (Part No. CBL-GPORTA-B2)

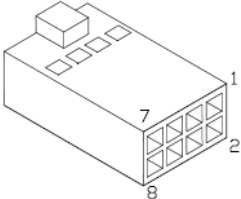


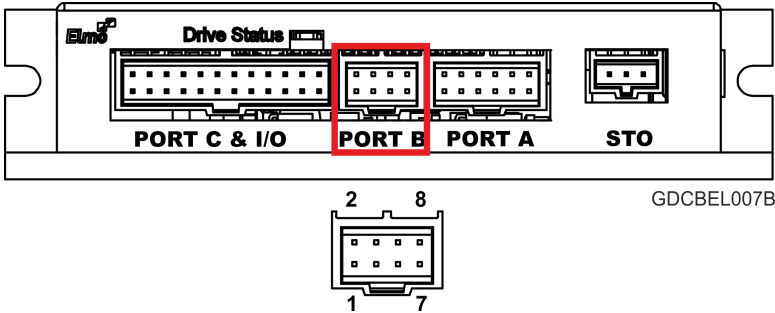
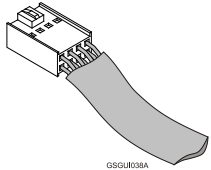
Chapter 3: Feedback Port B (CBL-GPORTB-B2)

The feedback port B cable is a 4-pair 24-AWG shielded twisted-pair cable. It is connected using an 8-pin Molex 2.54 mm pitch plug. The part number (P/N) of this cable is CBL-GPORTB-B2.

The cable is open on the motor side so that it can be connected to the motor feedback connector.

The general pinout of the feedback port B cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	+5V	Brown	Pair	 8-Pin Molex Plug
2	COMRET	White		
3	PortB_ENC_A+/SIN+	Gray	Pair	
4	PortB_ENC_A-/SIN-	Pink		
5	PortB_ENC_B+/COS+	Green	Pair	
6	PortB_ENC_B-/COS-	Yellow		
7	PortB_ENC_INDEX+/Analog_Index+	Red	Pair	
8	PortB_ENC_INDEX-/Analog_Index-	Blue		

Pin Positions	
 <p style="text-align: center;">8-Pin 2.54 mm Pitch Molex</p>	 8-Pin Molex Plug



Note: The specific functionality of each pin is described fully in the *Gold DC Bell Digital Servo Drive Installation Guide*.



Figure 2: Feedback Port B Cable (Part No. CBL-GPORTB-B2)



Chapter 4: Port C & I/O Cable (CBL-GPORTCIO-B2)

The Port C & IO cable is a 12-pair 24-AWG shielded twisted-pair cable. It is connected using a 24-pin Molex 2.54 mm pitch plug. The part number (P/N) of this cable is CBL-GPORTCIO-B2.

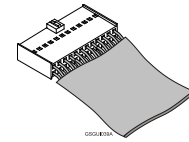
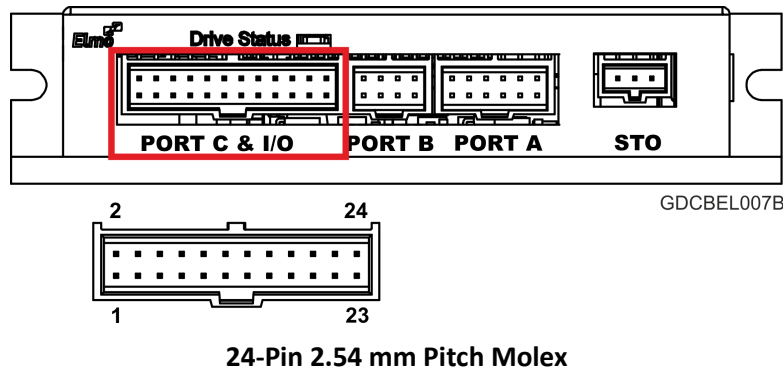
The cable is open on the motor side so that it can be connected to the controller interface connector.

The general pinout of the Port C and I/O cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Harness (Cable)	Plug
1	PortC_ENCO_A+	Brown	Pair	ENC_OUT	 24-Pin Molex Plug
2	PortC_ENCO_A-	White			
3	PortC_ENCO_B+	Gray	Pair		
4	PortC_ENCO_B-	Pink			
5	PortC_ENCO_Index+	Green	Pair		
6	PortC_ENCO_Index-	Yellow			
7	COMRET	Red			
8	PE	-	Shield		
9	ANALOG1-	Green	Pair	INPUTS	
10	ANALOG1+	Yellow			
11	ANARET	Brown			
12	INRET1_6	White			
13	IN1	Cyan			
14	IN2	Purple			
15	IN3	Orange			
16	IN4	Black			
17	IN5	Pink		OUTPUTS	
18	IN6	Blue			
19	OUT4	Brown			
20	OUT3	White			
21	OUT2	Gray			
22	OUT1	Pink			
23	VDD	Green	Pair		
24	VDDRET	Yellow			



Pin Positions



24-Pin Molex Plug

Note: The specific functionality of each pin is described fully in the *Gold DC Bell Digital Servo Drive Installation Guide*.

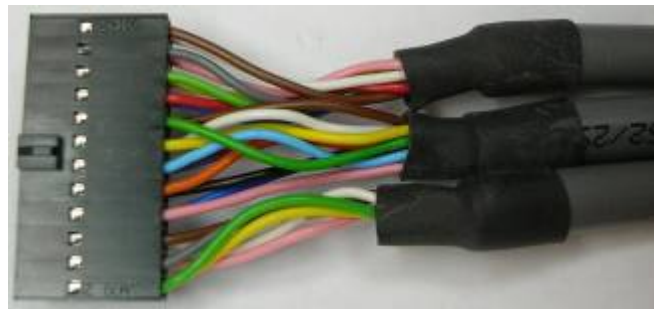


Figure 3: I/O Cable (Part No. CBL-GPORTCIO-B2)



Chapter 5: STO Cable (CBL-GSTOCOM-B2)

The STO cable is a 26-AWG shielded twisted-pair cable. It is connected using a 3-pin Molex 2.54 mm pitch plug. The part number (P/N) of this cable is CBL-GSTOCOM-B2.

The cable is open on the motor side so that it can be connected to the STO interface connector.

The general pinout of the STO cable is as follows:

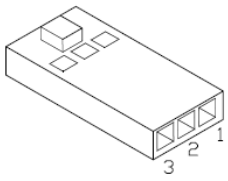
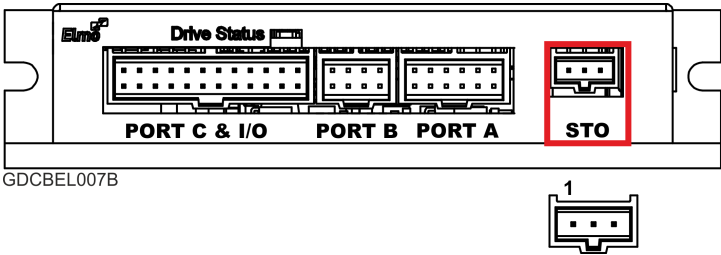
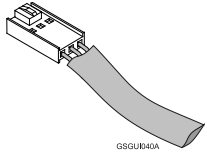
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	STO1	Yellow		 3-Pin Molex Plug
2	STO2	Green		
3	STO_RET	White		
Pin Positions				
 <p>GDCBEL007B</p> <p>3-Pin 2.54 mm Pitch Molex</p>				 3-Pin Molex Plug



Figure 4: STO Cable (Part No. CBL-GSTOCOM-B2)



Chapter 6: CAN Terminator (ACC-TRM-01) When requested specifically

The CAN terminations prevent the CAN signal reflection at the end of the physical lines.

The reflection suppresses the CAN signal (the CAN signal leads to Error Frames and causes the CAN controller message to be discarded). **120 Ohm resistors** are required on both physical ends of the CAN network to prevent the signal reflection.

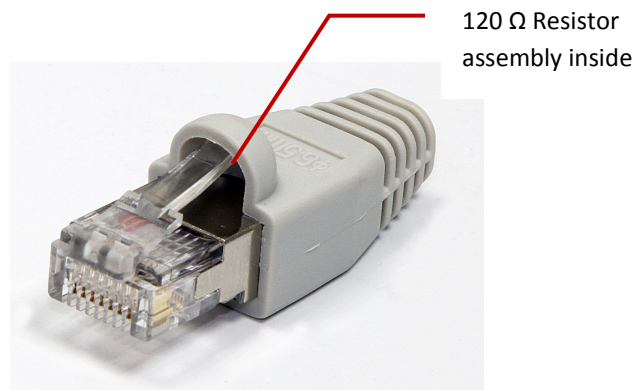


Figure 5: Termination (ACC-TRM-01)



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