

# Gold Cello

## Gold Cello Cable Kit



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## Catalog Number

CBL-GCELKIT

## Revision History

Version	Date	Details
Ver. 1.000	December 2013	Initial release
Ver. 1.100	December 2013	Updated the pinout details on all tables. Notes added regarding communication cables and CAN Terminator
Ver. 1.101	January 2014	Updated the cable kit catalog number.



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## Chapter 1: Introduction

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

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

### 1.1. Cable Kit

The catalog number of the Gold Cello cable kit is CBL-GCELKIT.

**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-DFDBK	Feedback Port A
CBL-GDCPORTB	Feedback Port B
CBL-GDCPORTC	Port C
CBL-GDCI/O	I/O cable
CBL-CEL24	VL+ auxiliary supply

In addition, standard cables that are not included in the cable kit are used to connect to the EtherCAT In, EtherCAT Out and Mini-USB B-type connectors.

**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 7:.

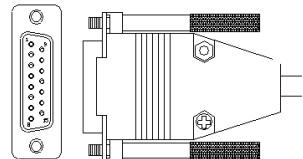


## Chapter 2: Feedback Port A Cable (CBL-DFDBK)

The feedback port A cable is made from a six-pair 24-AWG shielded twisted-pair cable. There is one type of feedback cable, which uses a 15-pin D-Type male connector to connect to the Gold Cello on the servo drive side. The part number (P/N) of this cable is CBL-DFDBK.

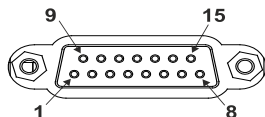
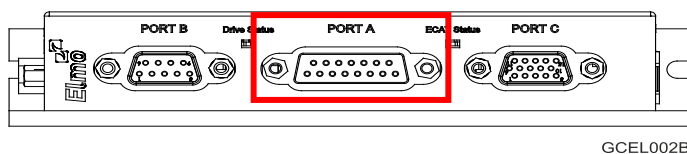
The feedback port A cable is open on the motor side so that it can be connected to the motor-feedback connector.

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

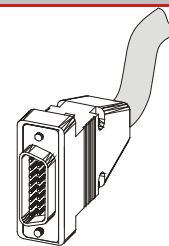
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	HC	Green	Pair	 <p>MALE</p> <p><b>15-Pin D-Type Male Connector</b></p>
10	HB	Yellow		
3	COMRET	White	Pair	
4	+5V	Brown		
5	PortA_ENC_A-	Orange	Pair	
6	PortA_ENC_A+	Cyan		
7	PortA_ENC_INDEX-	Blue	Pair	
8	PortA_ENC_INDEX+	Red		
2	HA	Pink	Pair	
-	Reserved	Gray		
14	PortA_ENC_B-	Black	Pair	
15	PortA_ENC_B+	Purple		
*	PE	-	Drain Wire	

\* - Connector Frame

### Pin Positions



**15-Pin D-Type Female Connector**



**15-Pin D-Type Male Connector**



**Note:** The specific functionality of each pin is described fully in the *Gold Cello Installation Guide*.



**Figure 1: Single-Sided Feedback Port A Cable (Part No. CBL-DFDBK)**

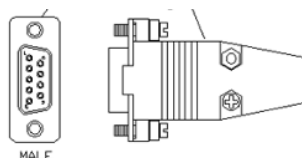


## Chapter 3: Feedback Port B Cable (CBL-GDCPORTB)

The feedback port B cable is a four-pair 24-AWG shielded twisted-pair cable. It is connected using a 9-pin D-Type male connector to connect to the Gold Cello on the servo drive side. The part number (P/N) of this cable is CBL-GDCPORTB.

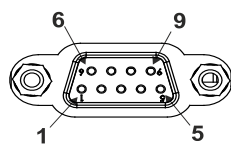
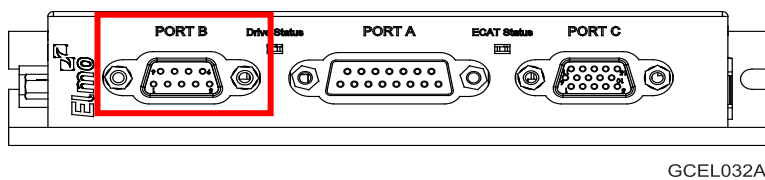
The cable is open on the motor side so that it can be connected to the motor feedback connector.

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

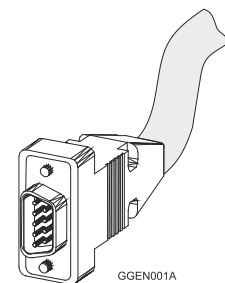
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortB_ENC_A+/SIN+	Brown	Pair	 <p><b>9-Pin D-Type Male Connector</b></p>
6	PortB_ENC_A-/SIN-	White		
3	PortB_ENC_INDEX+	Red	Pair	
8	PortB_ENC_INDEX-	Blue		
5	COMRET	Gray	Pair	
4	+5V	Pink		
7	PortB_ENC_B-/COS-	Green	Pair	
2	PortB_ENC_B+/COS+	Yellow		
*	PE	-	Drain Wire	

\* - Connector Frame

### Pin Positions



**9-Pin D-Type Female Connector**



**9-Pin D-Type Male Connector**



**Note:** The specific functionality of each pin is described fully in the *Gold Cello Installation Guide*.



**Figure 2: Feedback Port B Cable (Part No. CBL-GDCPORTB)**



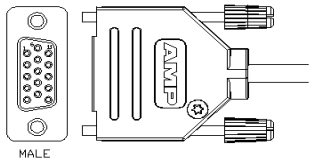


## Chapter 4: Port C Cable (CBL-GDCPORTC)

The Port C cable is an eight-pair 24-AWG shielded twisted-pair cable. It is connected using 15-pin male high density D-type connector to connect to the Gold Cello on the servo drive side. The part number (P/N) of this cable is CBL-GDCPORTC.

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

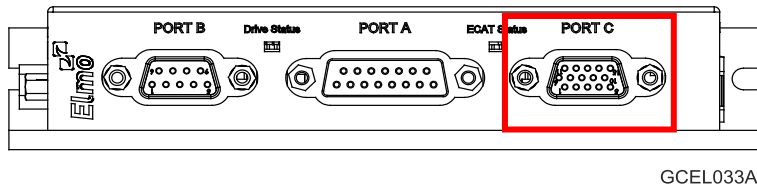
The general pinout of the Port C cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortC_ENCO_A+	Cyan	Pair	 <p><b>15-Pin Male High Density D-Type Connector</b></p>
2	PortC_ENCO_A-	Orange		
3	PortC_ENCO_B+	Purple	Pair	
4	PortC_ENCO_B-	Black		
5	PortC_ENCO_Index+	Red	Pair	
10	PortC_ENCO_Index-	Blue		
7	STO_RET	Gray	Pair	
6	STO1	Pink		
8	Reserved	Brown	Pair	
12	STO_RET	White		
9	COMRET	Green	Pair	
13	ANARET	Yellow		
15	ANALOG1+	White/Red	Pair	
14	ANALOG1-	White/Black		
11	STO2	White/Yellow	Pair	
-	Reserved	White/Green		
*	PE	-	Drain Wire	

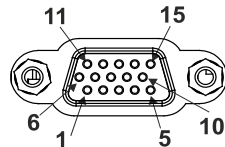
\* - Connector Frame



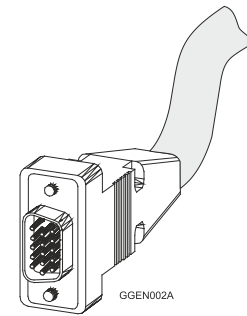
### Pin Positions



GCEL033A



15-Pin Female High Density D-Type Connector



GGEN002A

15-Pin High Density  
D-Type Male Connector

**Note:** The specific functionality of each pin is described fully in the *Gold Cello Installation Guide*.



Figure 3: Port C Cable (Part No. CBL-GDCPORTC)

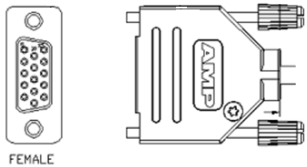


## Chapter 5: I/O Cable (CBL-GDCI/O)

The I/O cable is an eight-pair 24-AWG shielded twisted-pair cable. It is connected using a 15-pin female high density D-type connector. The part number (P/N) of this cable is CBL-GDCI/O.

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

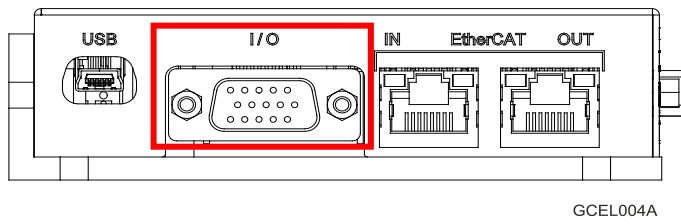
The general pinout of the port I/O feedback cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	IN1_HS	Orange	Pair	 <p><b>15-Pin Female High Density D-Type Connector</b></p>
2	IN2_HS	Cyan		
3	OUT1	Blue	Pair	
4	OUT2	Red		
5	OUT3	Yellow	Pair	
13	OUT4	Green		
7	IN3_HS	Purple	Pair	
8	IN4_HS	Black		
9	VDDRET	White	Pair	
10	VDD	Brown		
11	IN5_HS	Gray	Pair	
12	IN6_HS	Pink		
14	VDDRET	White/Black	Pair	
15	VDD	White/Red		
6	INRET1-6	White/Yellow	Pair	
-	Reserved	White/Green		
*	PE	-	Drain Wire	

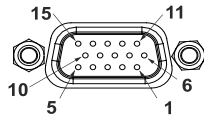
\* - Connector Frame



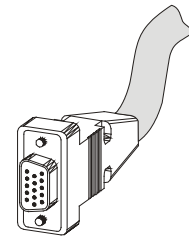
### Pin Positions



GCEL004A



15-Pin High Density D-Type Male Connector



15-Pin High Density  
D-Type Female  
Connector

**Note:** The specific functionality of each pin is described fully in the *Gold Cello Installation Guide*.



Figure 4: I/O Cable (Part No. CBL-GDCI/O)



## Chapter 6: VL+ Auxiliary Supply (CBL-CEL24)

The VL+ auxiliary supply is a two single twisted-pair 24-AWG double-shielded cable. It is connected using an Ending ferrule. The part number (P/N) of this cable is CBL-CEL24.

The cable is open on the second side so that it can be connected to the power supply.

The general pinout of the VL+ auxiliary supply is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire
1	VL+	Red	Pair
2	PR	Black	

Pin Positions	
<p>GCEL003A</p> <p><b>2-Pin Phoenix 3.81 mm Pitch</b></p>	<p>Aux. Power Cable</p> <p>GDU0031A</p> <p><b>2-Pin Phoenix Plug-in Connector</b></p>

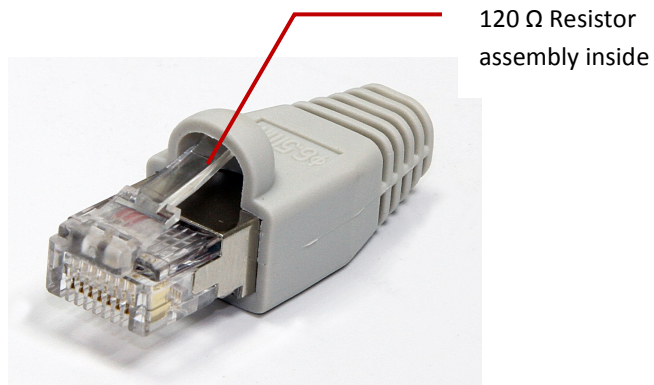
Table 1: Auxiliary Power Connector



## *Chapter 7: 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 4: Termination (ACC-TRM-01)**



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