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Gold DC Trombone

Gold DC Trombone Cable Kit (EtherCAT and CAN)

January 2014 (Ver. 1.100)

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Elmo Motion Control

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Document no. MAN-G-DCTRO-CBLKIT (Ver. 1.100)

Catalog Number

CBL-GDCTROKIT

Revision History

Version	Date	Details
Ver. 1.0	September 2011	Initial release
Ver. 1.100	January 2014	Initial release with new format

Chapter 1: Introduction

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

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

1.1. Cable Kit (CBL-GDCTROKIT)

NOTE:

It should be noted that this kit does not include any CAT5E RJ-45 for EtherCAT/CAN and Mini-USB communication cables. Please purchase these cables separately. These items are standard cables that can be purchased locally.

This cable kit includes the following cables:

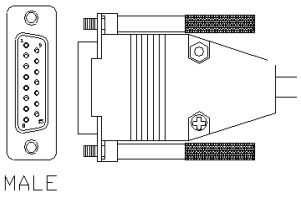
Function	Description
Port A	15-Pin D Type Male Connector
Port B	9-Pin D Type Male Connector
Port C	15-Pin High Density D Type Male Connector
I/O cable	15-Pin High Density D-Type Female Connector
24 VDC auxiliary supply	2-Pin Phoenix Plug-in Connector

Chapter 2: Port A Cable

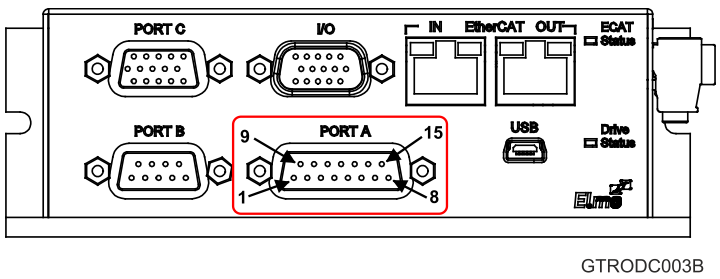
The Port A cable is a 6-pair 24-AWG shielded twisted-pair cable. It is connected using a D-type 15-pin male connector to the Gold DC Trombone Port A D-sub connector.

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

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

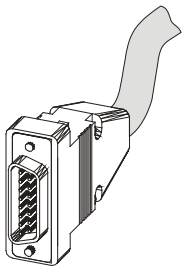
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	HC	Green	Twisted Pair 1	 **15-Pin D Type Male Connector**
10	HB	Yellow		
3	COMRET	White	Twisted Pair 2	
4	+5V	Brown		
5	PortA_ENC_A-	Orange	Twisted Pair 3	
6	PortA_ENC_A+	Cyan		
7	PortA_ENC_INDEX-	Blue	Twisted Pair 4	
8	PortA_ENC_INDEX+	Red		
2	HA	Pink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

Pin Positions



GTRODC003B

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 DC Trombone Installation Guide*.

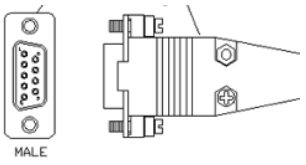
Figure 1: Feedback Port A Cable

Chapter 3: Port B Cable

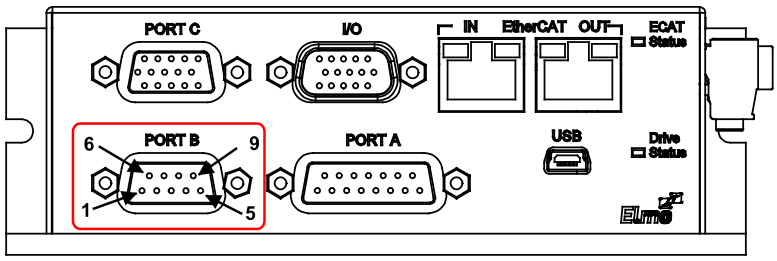
The Port B cable is a 4-pair 24-AWG shielded twisted-pair cable. It is connected using a D-type 9-pin male connector to the Gold DC Trombone Port B D-sub connector.

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

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

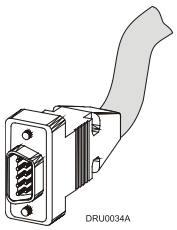
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortB_ENC_A+/SIN+	Brown	Twisted Pair 1	 **9-Pin D Type Male Connector**
6	PortB_ENC_A-/SIN-	White		
3	PortB_ENC_INDEX+	Red	Twisted Pair 2	
8	PortB_ENC_INDEX-	Blue		
5	COMRET	Gray	Twisted Pair 3	
4	+5V	Pink		
7	PortB_ENC_B-/COS-	Green	Twisted Pair 4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

Pin Positions



GTRODC048C

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 DC Trombone Installation Guide*.

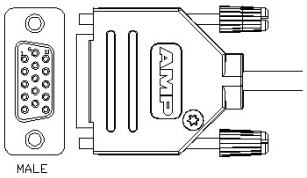
Figure 2: Feedback Port B Cable

Chapter 4: Port C Cable

The Port C cable is an 8-pair 24-AWG shielded twisted-pair cable. It is connected using a D-type 15-pin high density male connector to the Gold DC Trombone Port C D-sub connector.

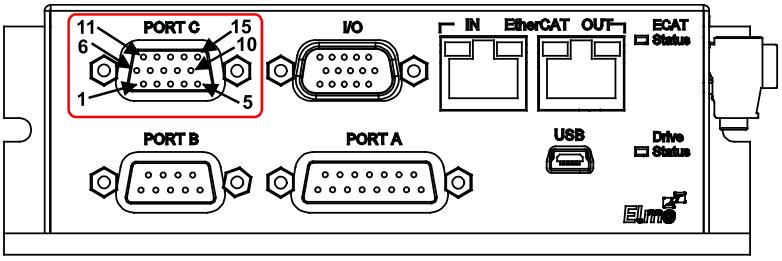
The cable is open on the user interface side so that it can be connected to the controller interface connector.

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

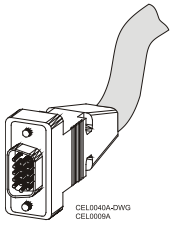
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortC_ENCO_A+	Cyan	Twisted Pair 1	 **15-Pin High Density D Type Male Connector**
2	PortC_ENCO_A-	Orange		
3	PortC_ENCO_B+	Purple	Twisted Pair 2	
4	PortC_ENCO_B-	Black		
5	PortC_ENCO_Index+	Red	Twisted Pair 3	
10	PortC_ENCO_Index-	Blue		
7	STO_RET	Gray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

*** - Connector 15 Pin Male Frame**

Pin Positions



15-Pin High Density D-Type Female Connector



15-Pin High Density D-Type Male Connector

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

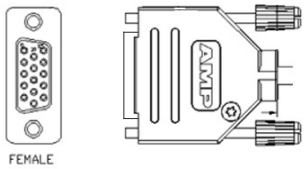
Figure 3: Port C Cable

Chapter 5: I/O Cable

The I/O cable is an 8-pair 24-AWG double shielded twisted-pair cable. It is connected using a D-type 15-pin female connector to the Gold DC Trombone on the servo drive side.

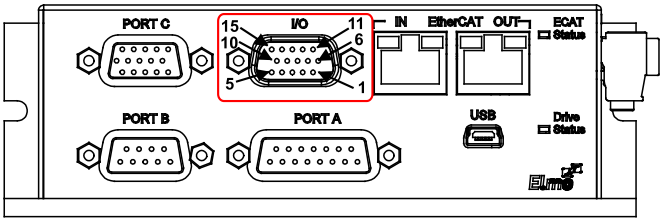
The cable is open on the end side so that it can be connected to the controller interface connector.

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

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	IN1	Orange	Twisted Pair 1	 **15-Pin High Density D-Type Female Connector**
2	IN2	Cyan		
3	OUT1	Blue	Twisted Pair 2	
4	OUT2	Red		
5	OUT3	Yellow	Twisted Pair 3	
13	OUT4	Green		
7	IN	Purple	Twisted Pair 4	
8	IN4	Black		
9	VDDRET	White	Twisted Pair 5	
10	VDD	Brown		
11	IN5	Gray	Twisted Pair 6	
12	IN6	Pink		
14	VDDRET	White/Black	Twisted Pair 7	
15	VDD	White/Red		
6	INRET1-6	White/Yellow		
*	PE	-	Drain Wire	

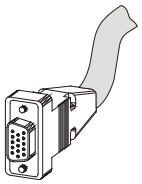
*** - Connector 15 Pin High Density Frame**

Pin Positions



GTRODC049C

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 DC Trombone Installation Guide*.

Figure 4: I/O Cable

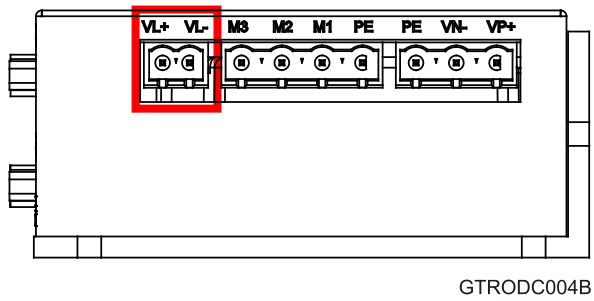
Chapter 6: 24 VDC Auxiliary Supply

The 24 VDC auxiliary supply is a single twisted-pair 24-AWG double-shielded cable. It is connected to the auxiliary power supply connector.

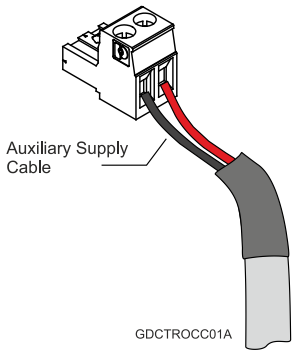
The cable is open on the end side so that it can be connected to the auxiliary power supply.

The general pinout of the 24 VDC auxiliary supply is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire
VL+	+24VDC	Red	Pair
VL-	24VDC_RET	Black	



2-Pin Pluggable 5.08 mm Phoenix High Current



2-Pin Phoenix Plug-in Connector

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

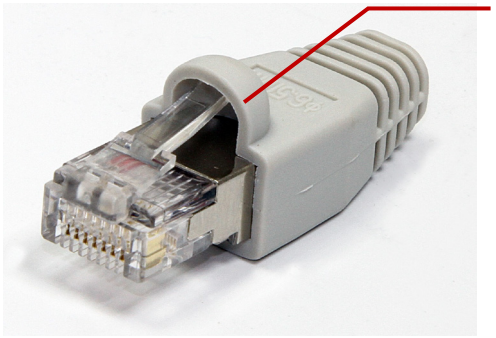
Figure 4: 24 VDC Auxiliary Supply Cable

Chapter 7: CAN Terminator

The CAN terminator is used only for CAN applications. It is used to terminate the CAN communication line.

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

The reflection suppresses the CAN signal which may lead 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.



120 Ω Resistor assembly inside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