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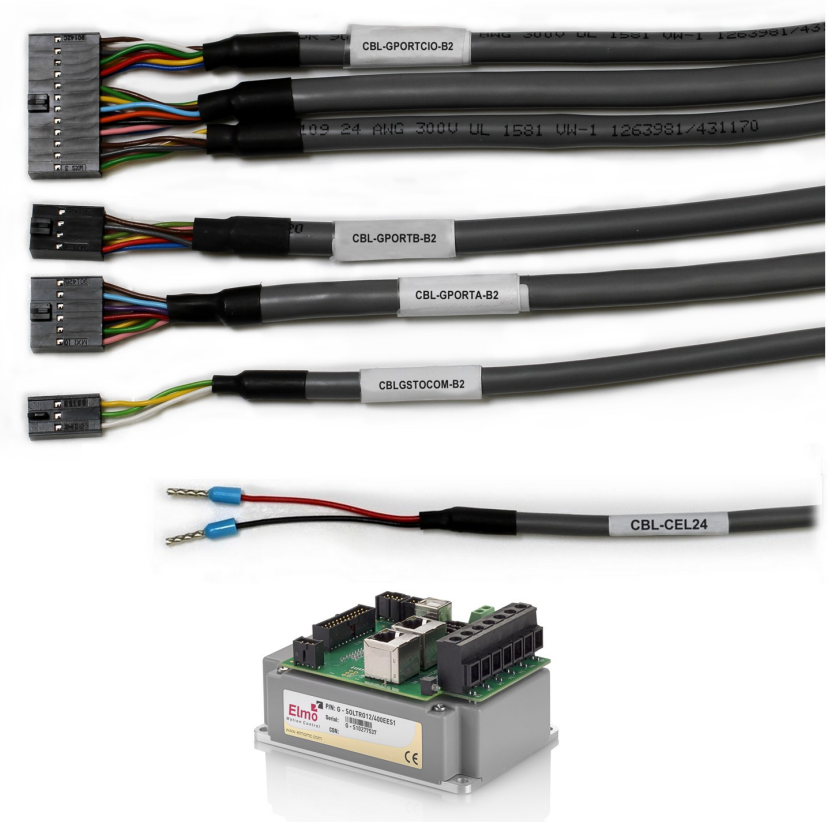
Gold Solo Trombone Cable Kit (EtherCAT and CAN)



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

Catalog Number

CBL-GDCWHIKIT02

Revision History

Version	Date	Details
Ver. 1.0	January 2012	Initial release
Ver. 1.100	January 2014	Initial release with new format General document update

Chapter 1: Introduction

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

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

1.1. Cable Kit (CBL-GDCWHIKIT02)

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.

Cable kit CBL-GDCWHIKIT02 includes the following communication cables:

Function	Description
Port A	12-Pin Molex Connector
Port B	8-Pin Molex Connector
I/O	24-Pin Molex Connector
STO	3-Pin Molex Connector
24 VDC auxiliary supply	2-Pin Phoenix Plug-in Connector

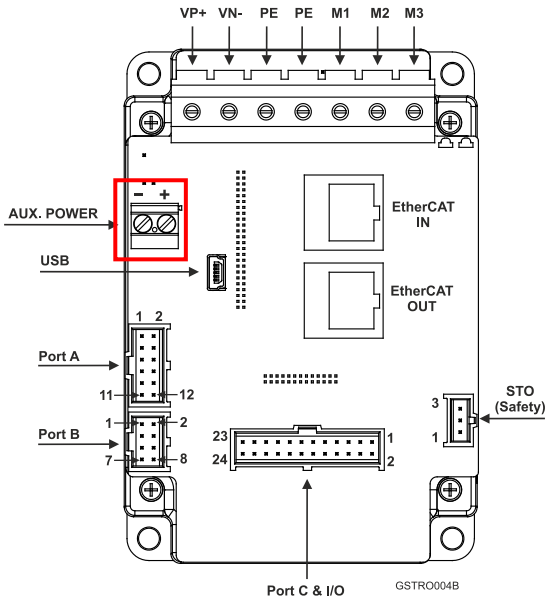
Chapter 2: 24 VDC Auxiliary Supply

The 24 VDC auxiliary supply is a single twisted-pair 24-AWG double-shielded cable. It is connected to the Gold Solo Trombone 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:

Symbol	Signal	Color	Twisted & Shielded Wire
+	VL+	Red	Twisted Pair
-	VL-	Black	



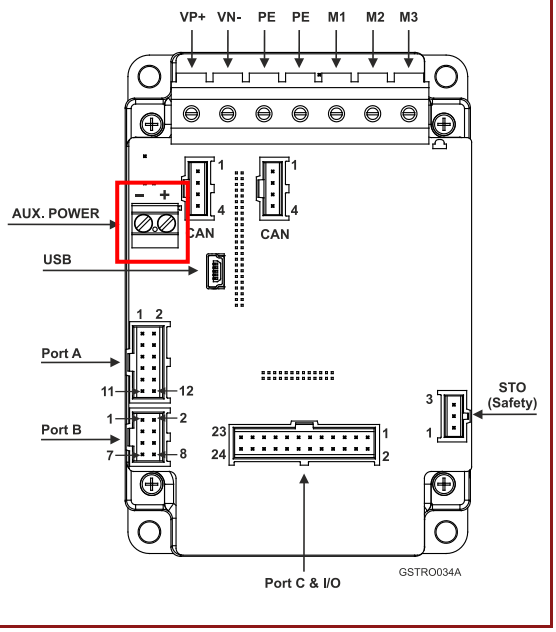


Table 1: Power Connector

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

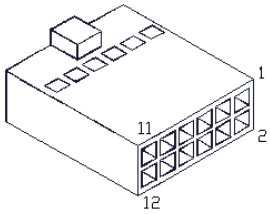
Figure 1: 24 VDC Auxiliary Supply Cable

Chapter 3: Port A Cable

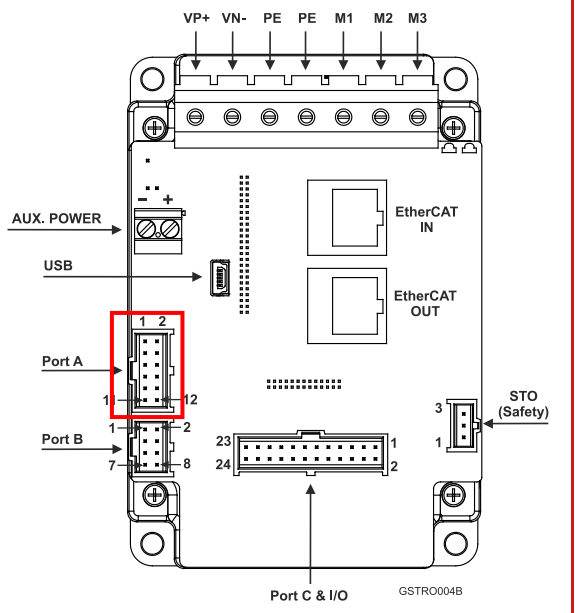
The Port A cable is a 6-pair 24-AWG shielded twisted-pair cable. It is connected to Port A in the Gold Solo Trombone servo drive.

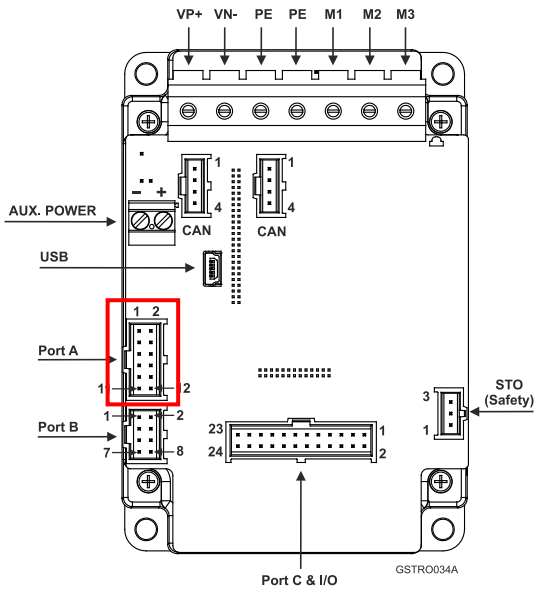
The cable is open on the feedback side so that it can be connected to the motor-feedback connector.

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

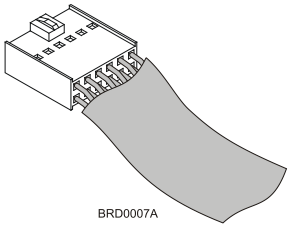
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	+5V	Brown	Twisted Pair 1	 **12-Pin Molex Connector**
2	COMRET	White		
3	PortA_ENC_A+	Cyan	Twisted Pair 2	
4	PortA_ENC_A-	Orange		
5	PortA_ENC_B+	Purple	Twisted Pair 3	
6	PortA_ENC_B-	Black		
7	PortA_ENC_INDEX+	Red	Twisted Pair 4	
8	PortA_ENC_INDEX-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

Pin Positions





Cable Connector



12-Pin Molex Connector

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

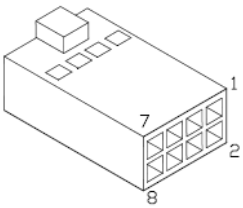
Figure 2: Feedback Port A Cable

Chapter 4: Port B Cable

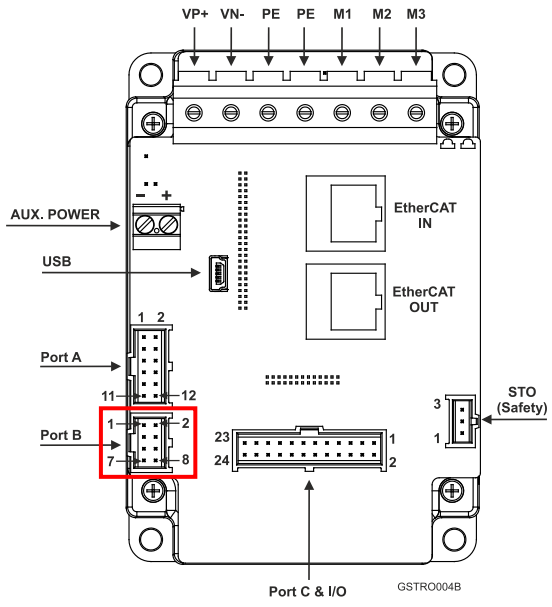
The Port B cable is a 4-pair 24-AWG shielded twisted-pair cable. It is connected to Port B in the Gold Solo Trombone servo drive.

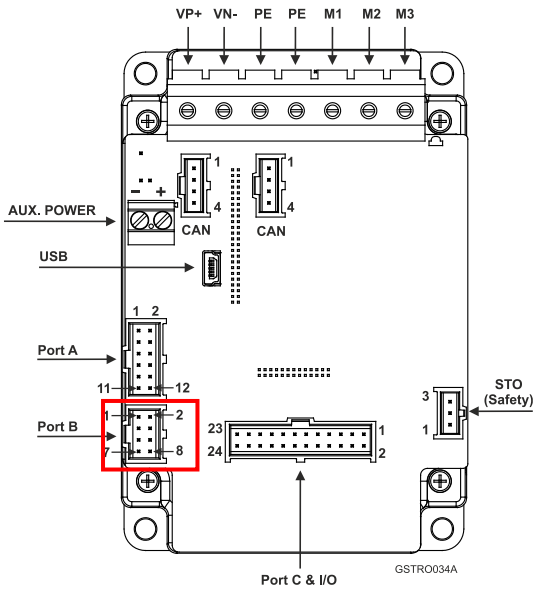
The cable is open on the feedback side so that it can be connected to the motor-feedback connector.

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

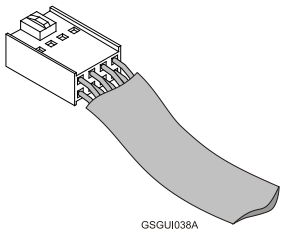
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	+5V	Brown	Twisted Pair 1	 8-Pin Molex Connector
2	COMRET	White		
3	PortB_ENC_A+/SIN+	Gray	Twisted Pair 2	
4	PortB_ENC_A-/SIN-	Pink		
5	PortB_ENC_B+/COS+	Green	Twisted Pair 3	
6	PortB_ENC_B-/COS-	Yellow		
7	PortB_ENC_INDEX+/Analog_Index+	Red	Twisted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

Pin Positions





Cable Connector



8-Pin Molex Connector

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

Figure 3: Feedback Port B Cable

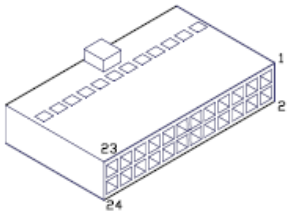
Chapter 5: I/O Cable

The I/O cable consists of three different cables. Two of the cables are 4-pair 24-AWG shielded twisted pair cables. The third cable is a 6-pair 24-AWG shielded twisted-pair cable. It is connected to the I/O connector in the Gold Solo Trombone servo drive.

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 I/O cable is as follows:

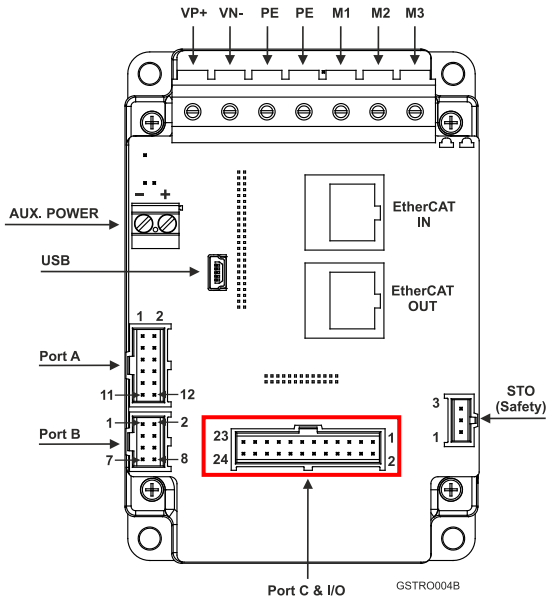
Pin No.	Signal	Color	Twisted & Shielded Wire	Cable	Plug
Port C – Emulated Encoder Output					
1	PortC_ENCO_A+	Brown	Twisted Pair 1	A	
2	PortC_ENCO_A-	White			
3	PortC_ENCO_B+	Gray	Twisted Pair 2		
4	PortC_ENCO_B-	Pink			
5	PortC_ENCO_Index+	Green	Twisted Pair 3		
6	PortC_ENCO_Index-	Yellow			
7	COMRET	Red	-		
8	COMRET	-	Drain Wire		
Analog and Digital Inputs					
9	ANALOG1-	Green	Twisted Pair 1	B	
10	ANALOG1+	Yellow			
11	ANARET	Brown	Twisted Pair 2		
12	INRET1_6	White			
13	IN1	Cyan	Twisted Pair 3		
14	IN2	Purple			
15	IN3	Orange	Twisted Pair 4		
16	IN4	Black			
17	IN5	Pink	Twisted Pair 5		
18	IN6	Blue			

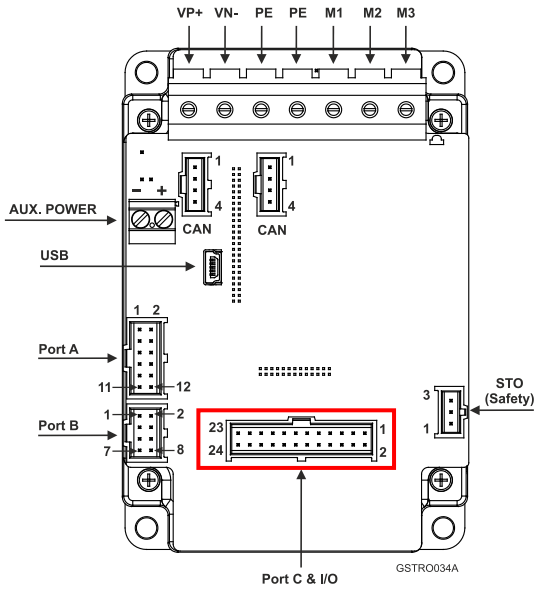


24-Pin Molex Connector

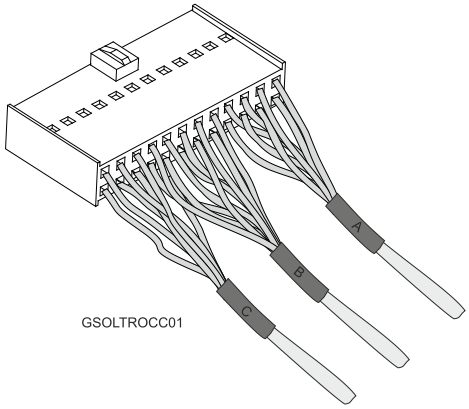
Pin No.	Signal	Color	Twisted & Shielded Wire	Cable	Plug
Digital Output					
19	OUT4	Brown	Twisted Pair 1	C	
20	OUT3	White			
21	OUT2	Gray	Twisted Pair 2		
22	OUT1	Pink			
23	VDD	Green	Twisted Pair 3		
24	VDDRET	Yellow			

Pin Positions





Cable Connector



24-Pin Molex Connector

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

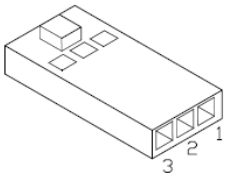
Figure 4: I/O Cable

Chapter 6: STO Cable

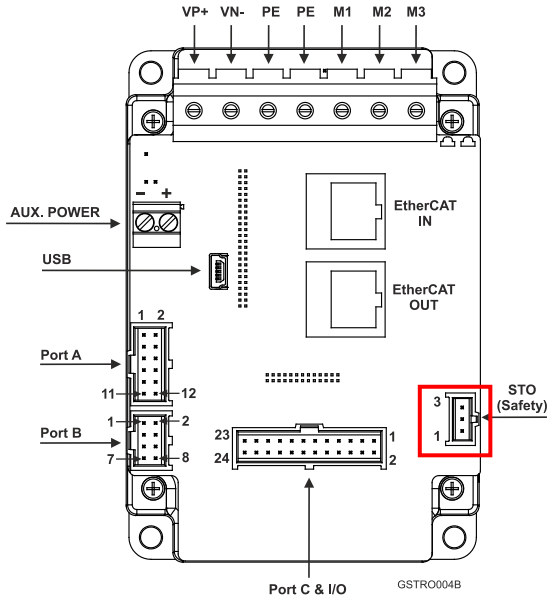
The STO cable is a 2-pair 24-AWG shielded twisted-pair cable. It is connected to the STO connector in the Gold Solo Trombone servo drive.

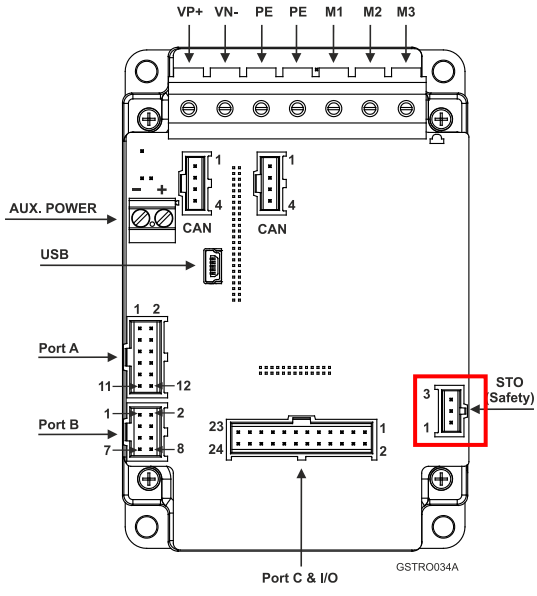
The cable is open on the end side so that it can be connected to the STO interface connector.

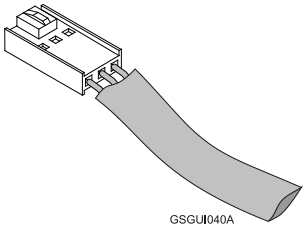
The general pinout of the STO cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	STO1	Yellow	Twisted Pair	 **3-Pin Molex Connector**
2	STO2	Green		
3	STO_RET	White		

Pin Positions





Cable Connector
 **3-Pin Molex Connector**

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

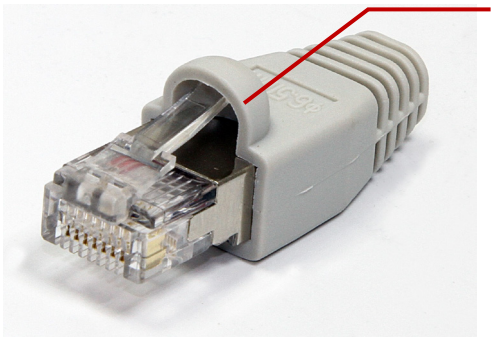
Figure 5: STO Cable

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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