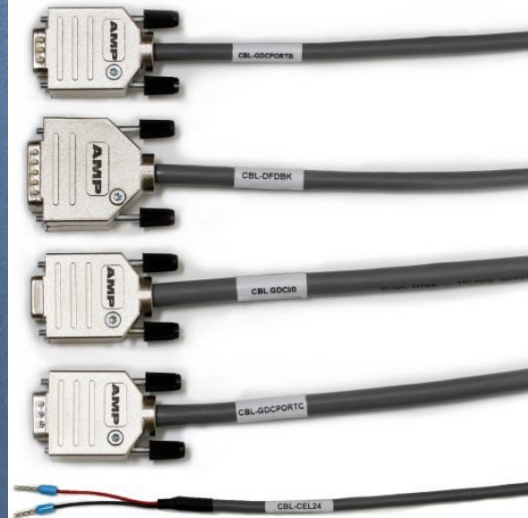
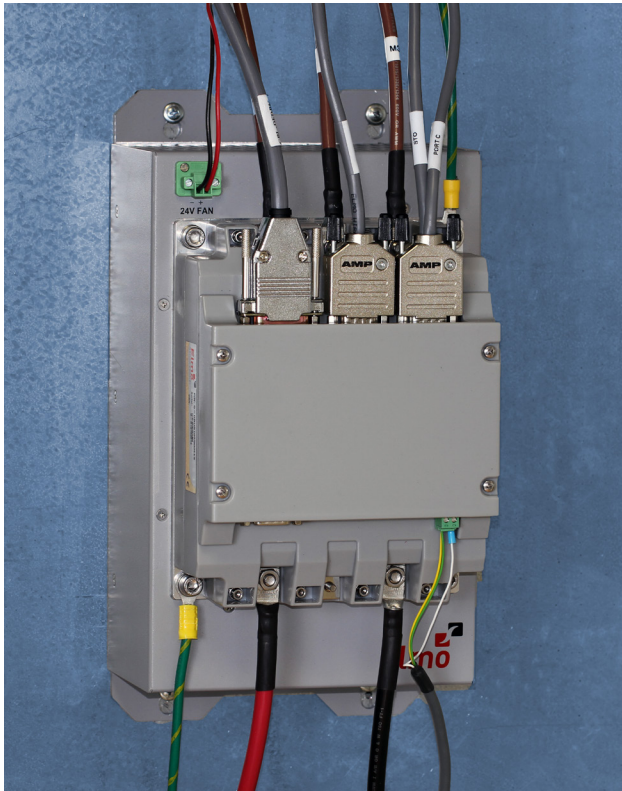


Gold Drum HV

Gold Drum HV Cable Kit (EtherCAT and CAN)



Notice

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- This guide contains proprietary information belonging to Elmo Motion Control Ltd. Such information is supplied solely for the purpose of assisting users of the Gold Drum HV Cable Kit servo drive in its installation.
- The text and graphics included in this manual are for the purpose of illustration and reference only. The specifications on which they are based are subject to change without notice.
- Information in this document is subject to change without notice.

Document no. MAN-G-DRUHV-CBLKIT (Ver. 1.000)

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Catalog Number

DRU-HVPOWKIT

GCON-DSUBKIT

Revision History

Version	Date	Details
Ver. 1.000	January 2014	Initial release



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Chapter 1: Introduction

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

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

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.

Elmo's Gold Drum HV Cable Kit consists of **two sets** of cable kits:

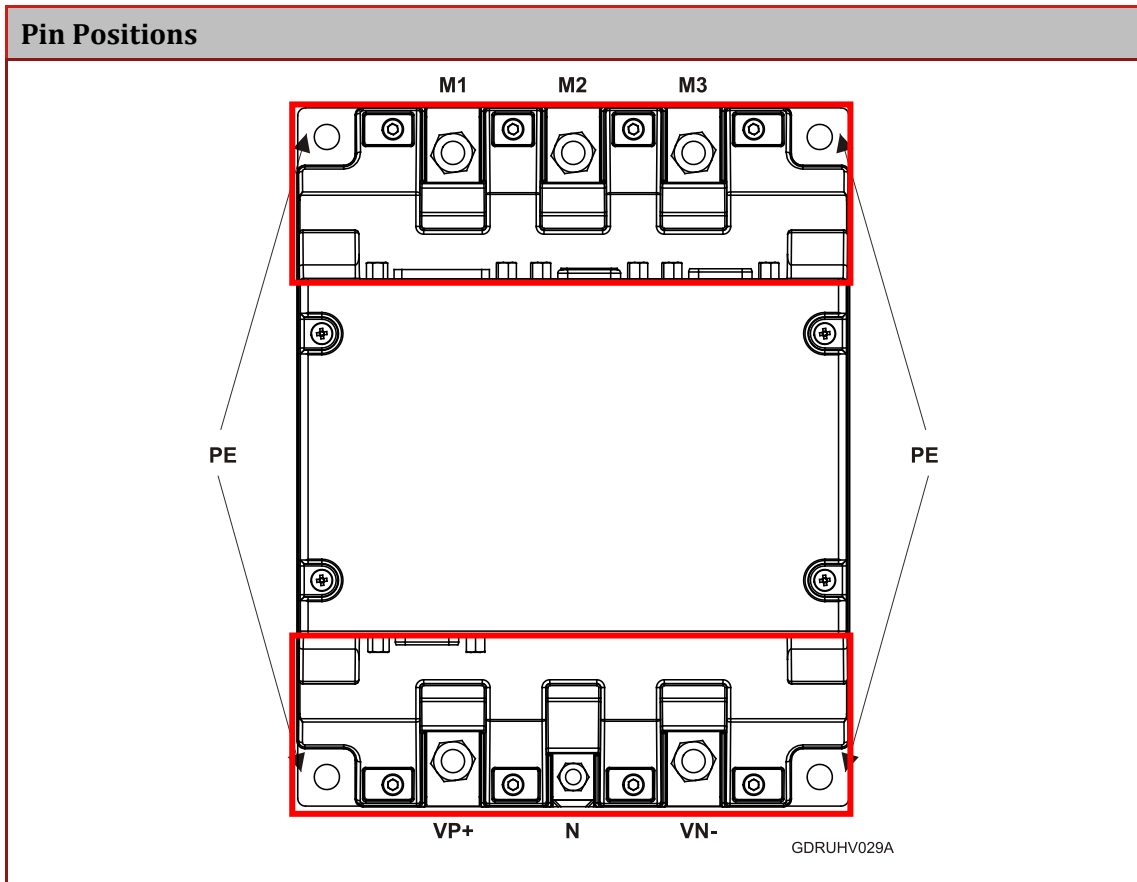
ELMO Part Number	Function
DRU-HVPOWKIT	Power cable kit for the Gold Drum HV See Chapter 2: Gold Drum HV Power Cable Kit for more details
G-CON D-SUBKIT	Gold Control D-Sub cable kit See Chapter 3: Gold Drum HV Control D-Sub for more details



Chapter 2: Gold Drum HV Power Cable Kit

The DRU-HVPOWKIT power cable kit includes the following cables:

Pin	Function	Cables	
		Brushless Motor	Brushed DC Motor
M3	Motor phase 3	MOTOR PHASE, brown , 8 AWG	MOTOR PHASE, brown , 8 AWG
M2	Motor phase 2	MOTOR PHASE, brown , 8 AWG	MOTOR PHASE, brown , 8 AWG
M1	Motor phase 1	MOTOR PHASE, brown , 8 AWG	N/C
PE	Protective Earth	MOTOR PE, yellow and green , 8 AWG	MOTOR PE, yellow and green , 8 AWG
VP+	DC Positive Power input	Power In, red , 8 AWG	Power In, red , 8 AWG
VN-	DC Negative Power input	Power In, black , 8 AWG	Power In, black , 8 AWG
PE	Protective Earth	Ground, yellow and green , 8 AWG	Ground, yellow and green , 8 AWG
N	Not in use	Not in use	Not in use



The cables are connected as follows:



Figure 1: Motor Power Cable Ends

The cables are connected as follows:

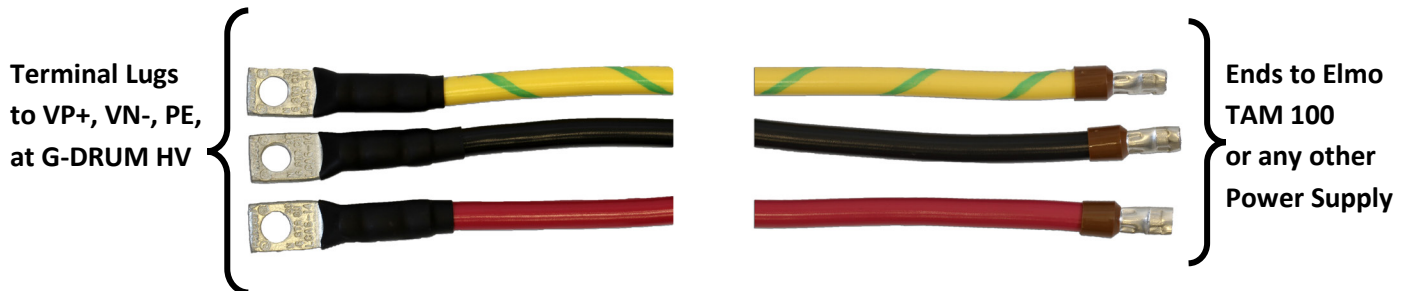


Figure 2: Main Power Cable Ends



Chapter 3: Gold Drum HV Control D-Sub

The Gold Drum HV Control D-Sub is GCON-DSUBKIT cable kit includes the following cables:

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

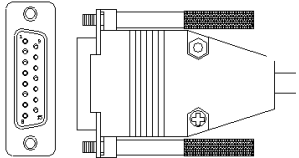


3.1. Port A Cable

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 Drum HV Port A D-sub connector.

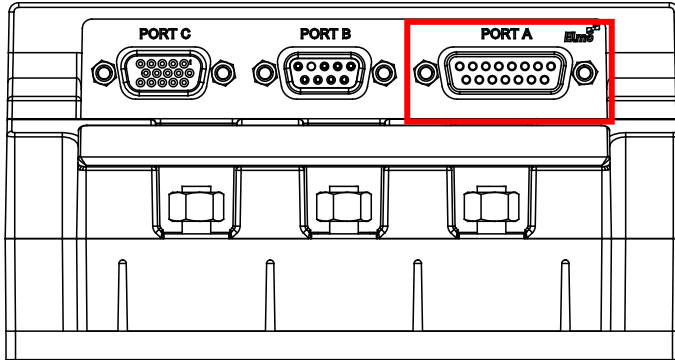
The cable is open on the feedback side so that it can be connected to the motor-feedback connector.

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

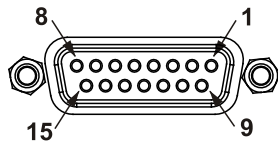
Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	HC	Green	Twisted Pair 1	 <p>MALE</p> <p>15-Pin D Type Male Connector</p>
10	HB	Yellow		
3	COMRET	White	Twisted Pair 2	
4	+5V	Brown		
5	PortA_ENC_A-	Orange	Twisted Pair 3	
6	PortA_ENC_A+	Cyan		
7	PortA_ENC_INDEX-	Blue	Twisted Pair 4	
8	PortA_ENC_INDEX+	Red		
10	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	



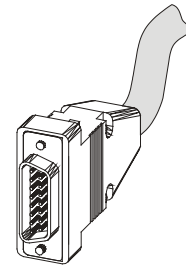
Pin Positions



GDRUHV027A



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 Drum HV Installation Guide*.



Figure 3: Feedback Port A Cable

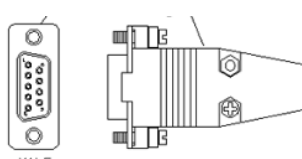


3.2. Port B Cable

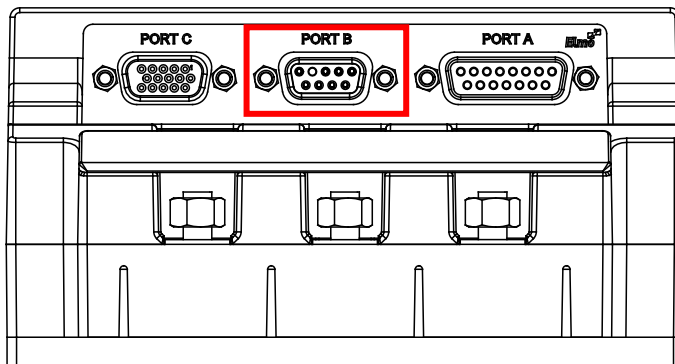
The Port B cable is a 4-pair 24-AWG shielded twisted-pair cable. It is connected using a D-type 9-pin male connector to the Gold Drum HV Port B D-sub connector.

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

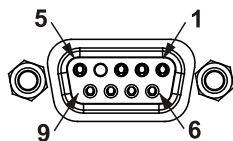
The general pinout of the Port B cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortB_ENC_A+/SIN+	Brown	Twisted Pair 1	 <p>9-Pin D Type Male Connector</p>
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-	Green	Twisted Pair 4	
2	PortB_ENC_B+	Yellow		
9	COMRET	-	Drain Wire	

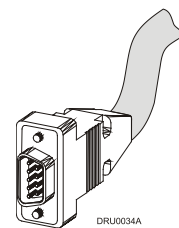
Pin Positions



GDRUHV033A



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 Drum HV Installation Guide*.



Figure 4: Feedback Port B Cable

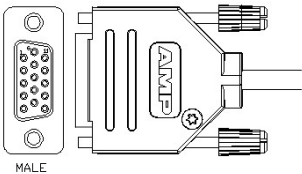


3.3. Port C Cable

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 Drum HV 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.

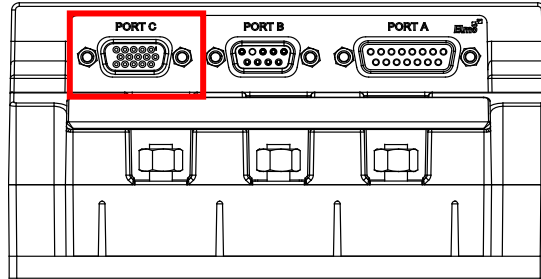
The general pinout of the Port C cable is as follows:

Pin No.	Signal	Color	Twisted & Shielded Wire	Plug
1	PortC_ENCO_A+	Cyan	Twisted Pair 1	 <p>15-Pin High Density D Type Male Connector</p>
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	

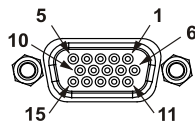
* - Connector 15 Pin Male Frame



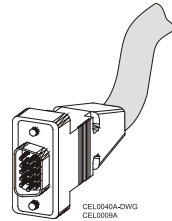
Pin Positions



GDRUHV034A



15-Pin High Density Female D-Type Connector



15-Pin High Density
D-Type Male
Connector

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



Figure 5: Port C Cable

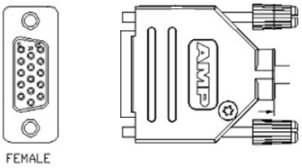


3.4. I/O Cable

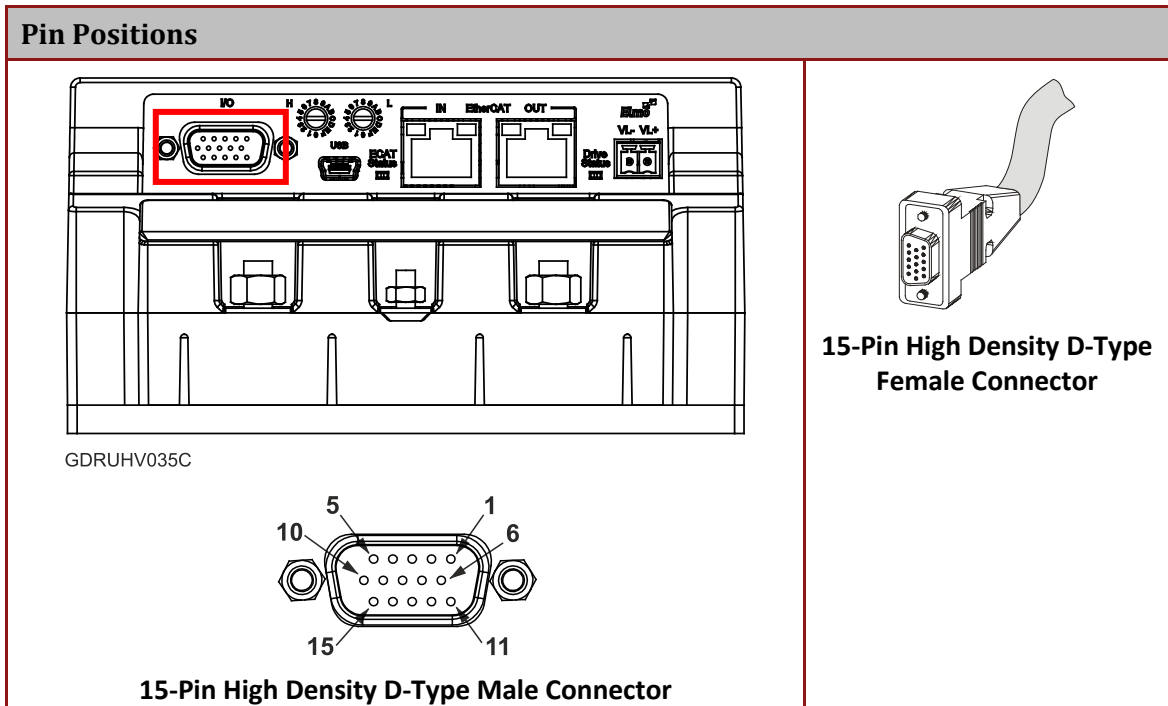
The I/O cable is an 8-pair 24-AWG double shielded twisted-pair cable. It is connected using a D-type 15-pin female connector to the Gold Drum HV on the servo drive side.

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	 <p>15-Pin High Density D-Type Female Connector</p>
2	IN2	Cyan		
3	OUT1	Blue	Twisted Pair 2	
4	OUT2	Red		
5	OUT3	Yellow	Twisted Pair 3	
13	OUT4	Green		
7	IN3	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**



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



Figure 4: I/O Cable



3.5. 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 Drum HV auxiliary power supply connector.

The cable is open on one end 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	

GDRUHV028C

24 VDC Auxiliary Supply Input

Auxiliary Supply Cable

GDRUHV052A

2-Pin Phoenix Plug-in Connector

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



Figure 6: 24 VDC Auxiliary Supply Cable

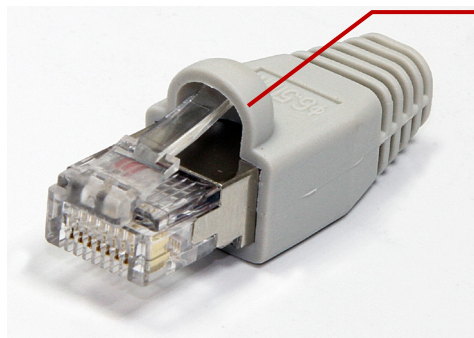


3.6. CAN Terminator

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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