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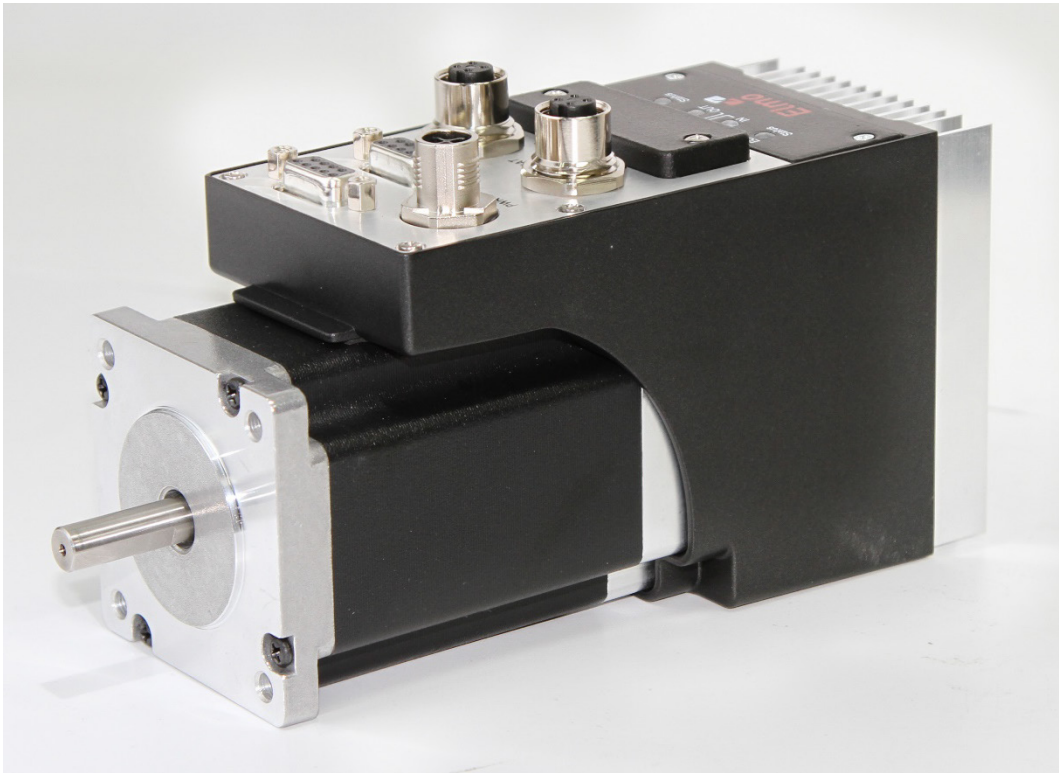
Gold Duet Stepper

24VDC Flange Sizes: 60

Cable Kit



July 2018 (Ver. 1.000)

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Catalog Number

CBL-GDSTEPKIT01

Revision History

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Ver. 1.000	Jul 2018	Initial release

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1. Introduction

This document provides the wiring details for the cables used to connect Elmo's Gold Duet Stepper servo drive with the end-user application. The servo drive-front pinouts are provided in Chapter 3 of the *Gold Duet Stepper 60 Digital Servo Drive Installation Guide*.

The cables come in one length: 1.5 meters (4.921 feet) with the exception of the EtherCAT cable.

1.1. Cable Kit

The catalog number for the Gold Duet Stepper cable kit is CBL-GDSTEPKIT01.

The Gold Duet Stepper cable kit includes the following:

ELMO Part Number	Function
CBL- M12P04P-1.5	Power cable M12 & leads
CBL-M12RJ45-2	ETHERCAT M12 4PINS TO RJ45 In/Out **x2** Cables
CBL-GDSTEPIO-1.5	I/O (Ain1) Cable
CBL-GDSTEPIO-1.5	I/O (Ain2) Cable

2. Power Cable (CBL- M12P04P-1.5)

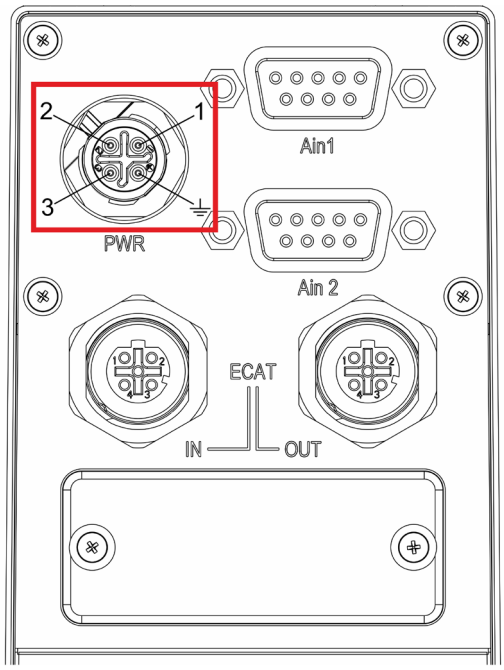
The part number (P/N) of the power cable is CBL-M12P04P-1.5.

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

The general pinout of the power cable is as follows:

Pin	Signal	Color Option 1		Color Option 2
1	Reserved	Black 1 Number shown on wire		Brown
2	PR	Black 2 Number shown on wire		Blue
3	VP+	Black 3 Number shown on wire		Black
4 ⏚ (PE) Shield	Cable between PE and Shield internally short	Yellow/Green		

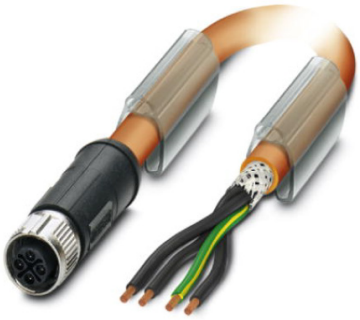
Pin Positions



G-DUET-60_Stepper-001A -E

G-DUET-60 Connectors Interface

Figure 1: M12 socket 4-pos S-encoded Power Male Connector



4-Pin M12 (Power) Female Connector

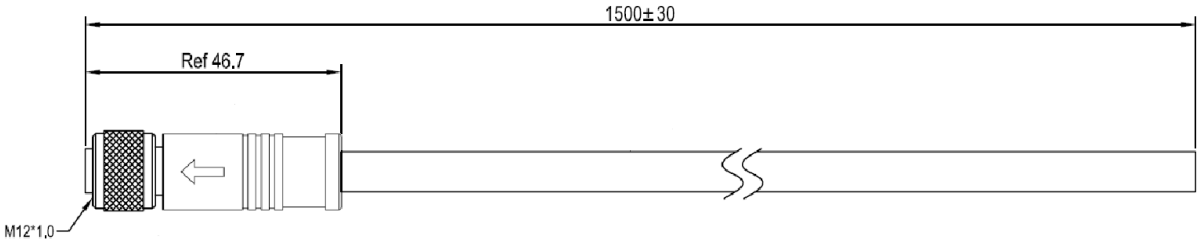


Figure 2: Power Cable (CBL- M12P04P-1.5)

3. I/O Cable (Ain1) (CBL-GDSTEPIO-1.5)

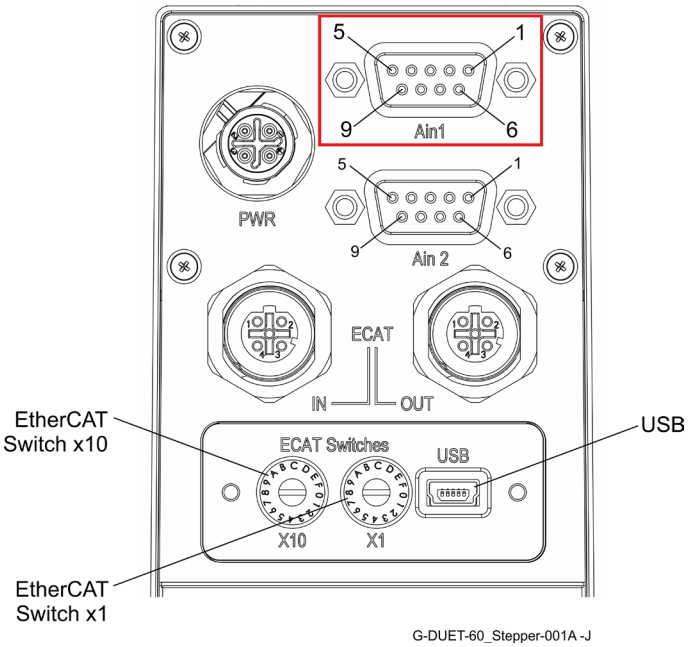
The feedback port I/O cable is a 9-pin 24-AWG 4 twisted pair, doubles cable of overall length 1.5 m. It is connected using an 9-pin D-Type male metal 4/40 long screw connector. The part number (P/N) of this cable is CBL-GDSTEPIO-1.5. The cable is open on the motor side so that it can be connected to customer-specific IO connector.

The Gold Duet 60 Stepper Ain1 connector has the following:

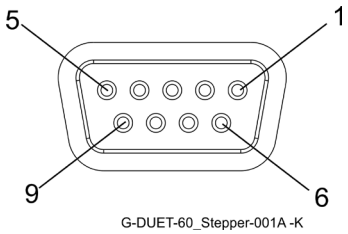
- One differential analog input: 16 bits Sample resolution, Analog input voltage 0÷10V
- One digital input, is configured to the Sink mode – PLC voltage level
- One digital output, is configured to the Sink mode – PLC voltage level

Pin	Details		
	Signal	**Cable Color**	**Twisted & Shielded Wires**
1	+24VDC (VP)	Red	Pair 1
6	+24VDC (VP)	Blue	
4	AIN1+	Brown	Pair 2
3	AIN1-	White	
8	DIN1	pink	Pair 3
2	COMRET	Grey	
9	DOUT1	Yellow	Pair 4
7	COMRET	Green	
5	COMRET		Drawin Wire
Metal Housing	PE		

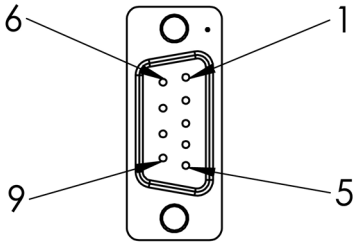
Connectors



G-DUET-60 Connectors Interface



D-Type 9 pin Female Connector



D-Type 9 pin Male Connector

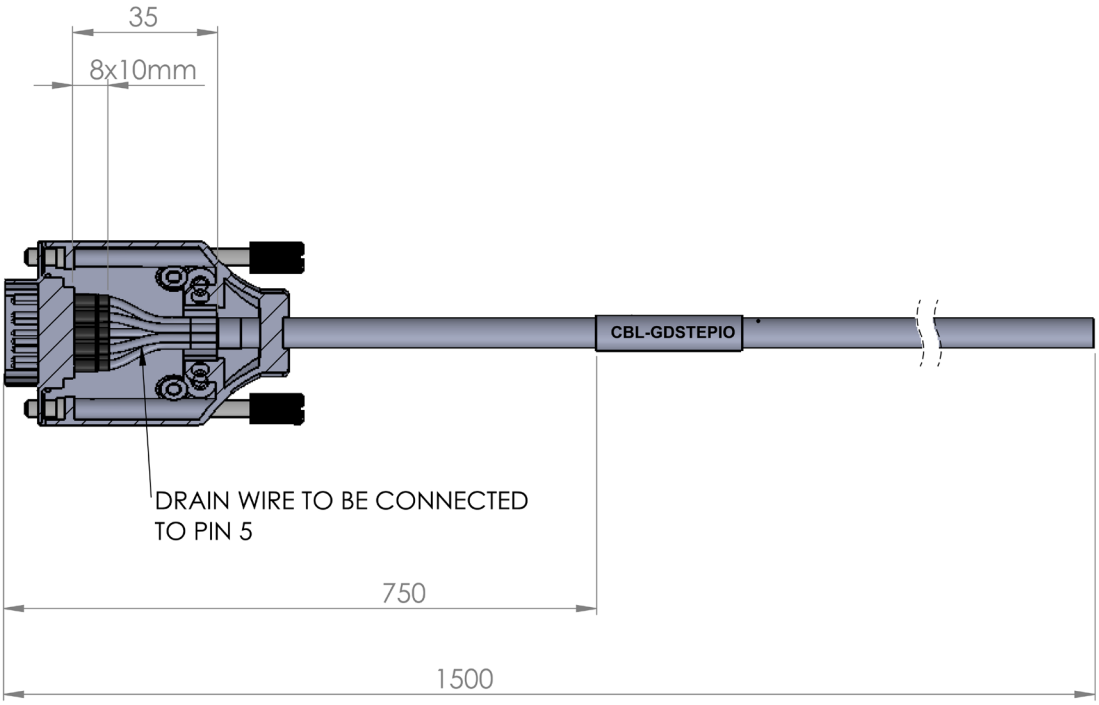


Figure 3: Analog Input and I/O Cable (Ain1) (CBL-GDSTEPIO-1.5)

4. I/O Cable (Ain2) (CBL GDSTEPIO-1.5)

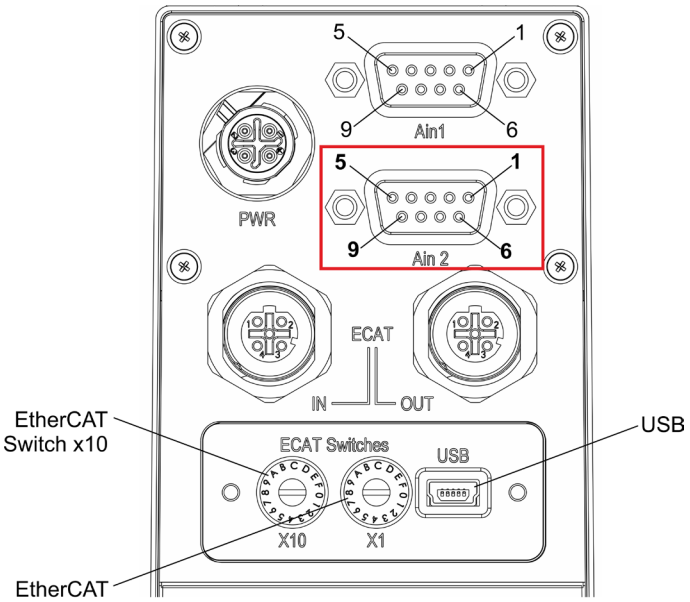
The feedback port I/O cable is a 9-pin 24-AWG 4 twisted pair, doubles cable of overall length 1.5 m. It is connected using an 9-pin D-Type male metal 4/40 long screw connector. The part number (P/N) of this cable is CBL-GDSTEPIO-1.5. The cable is open on the motor side so that it can be connected to customer-specific IO connector.

The Gold Duet 60 Stepper Ain2 connector has the following:

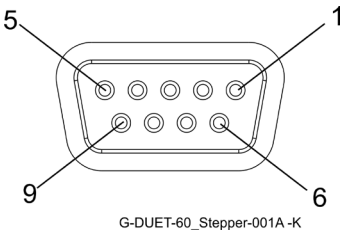
- One differential analog input: 16 bits Sample resolution, Analog input voltage 0÷10V
- One digital input, is configured to the Sink mode – PLC voltage level
- One digital output, is configured to the Sink mode – PLC voltage level

Pin	Details		
	Signal	Cable Color	Twisted & Shielded Wires
1	+24VDC (VP)	Red	Pair 1
6	+24VDC (VP)	Blue	
4	AIN2+	Brown	Pair 2
3	AIN2-	White	
8	DIN2	Pink	Pair 3
2	COMRET	Grey	
9	DOUT2	Yellow	Pair 4
7	COMRET	Green	
5	COMRET		Drawin Wire
Metal Housing	PE		

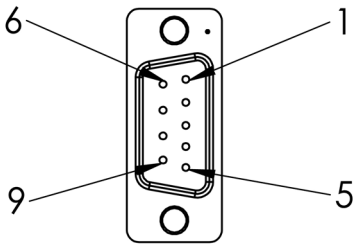
Connectors



G-DUET-60 Connectors Interface



D-Type 9 pin Female Connector



D-Type 9 pin Male Connector

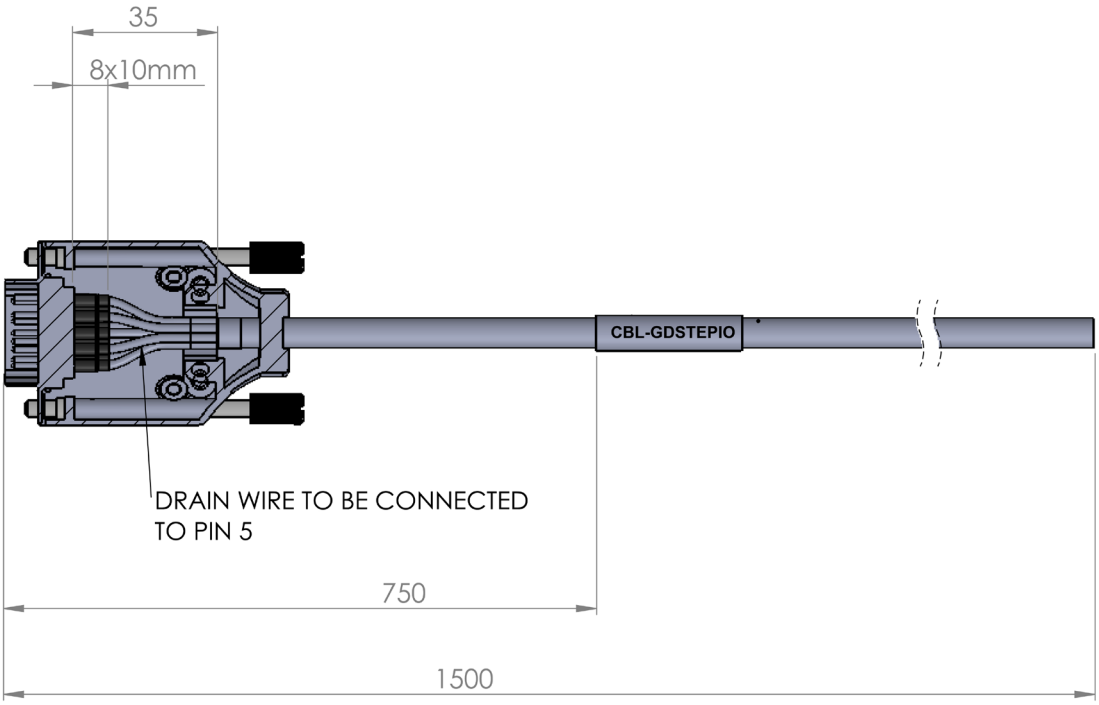


Figure 4: Analog Input and I/O Cable (Ain1) (CBL-GDSTEPIO-1.5)

5. EtherCAT IN Cable (CBL-M12RJ45-2)

The part number (P/N) of the EtherCAT In cable is CBL-M12RJ45-2. The cable is an RJ45 BPBC connector with shielding straight Cat5e SFTP to an M12 screw straight 4-pin (P2) male PVC cable connector. The length of the cable is 2.0 m.

The general pinout of the EtherCAT In cable is as per Figure 5:

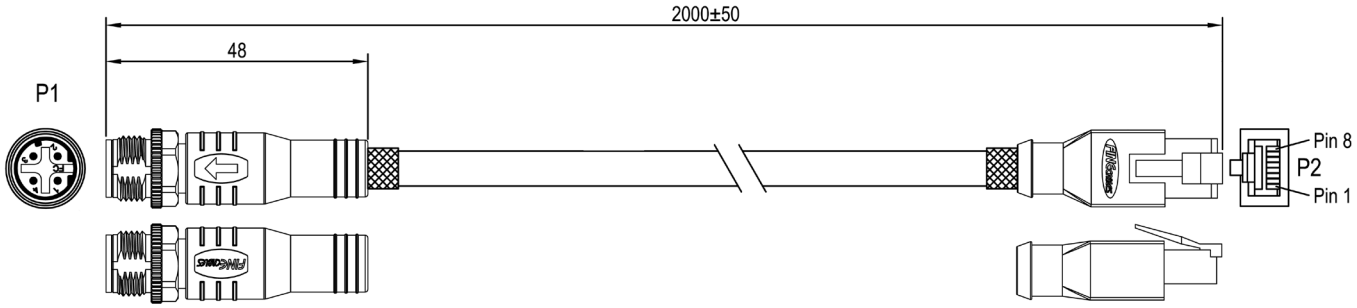


Figure 5: EtherCAT In Cable

Signal	Pin P1 M12 4-pin Male	Color	Pin P2 RJ-45	Twisted & Shielded Wire
EtherCAT_IN_TX+/Ethernet_TX+	1	White-Orange	1	Pair
EtherCAT_IN_TX-/Ethernet_TX-	3	Orange	2	
EtherCAT_IN_RX+/Ethernet_RX+	2	White-Green	3	Pair
EtherCAT_IN_RX-/Ethernet_RX-	4	Green	6	
	shell	Braid	shell	

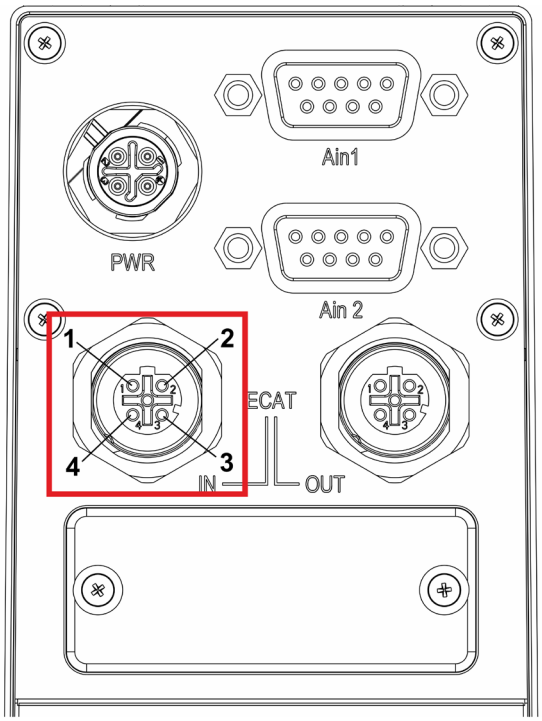
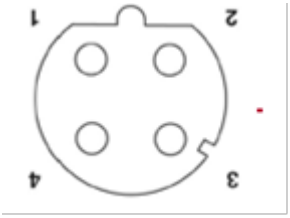
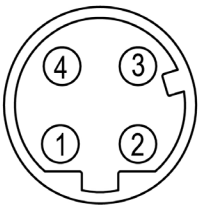
Pin Positions	
 G-DUET-60_Stepper-001A -G **G-DUET-60 Connectors Interface**  **M12 4 pins Female**	  **M12 4 pins Male**

Table 1: EtherCAT IN - Pin Assignments

6. EtherCAT OUT Cable (CBL-M12RJ45-2)

The part number (P/N) of the EtherCAT In cable is CBL-M12RJ45-2. The cable is an RJ45 BPBC connector with shielding straight Cat5e SFTP to an M12 screw straight 4-pin (P2) male PVC cable connector. The length of the cable is 2.0 m.

The general pinout of the EtherCAT Out cable is as per Figure 5:

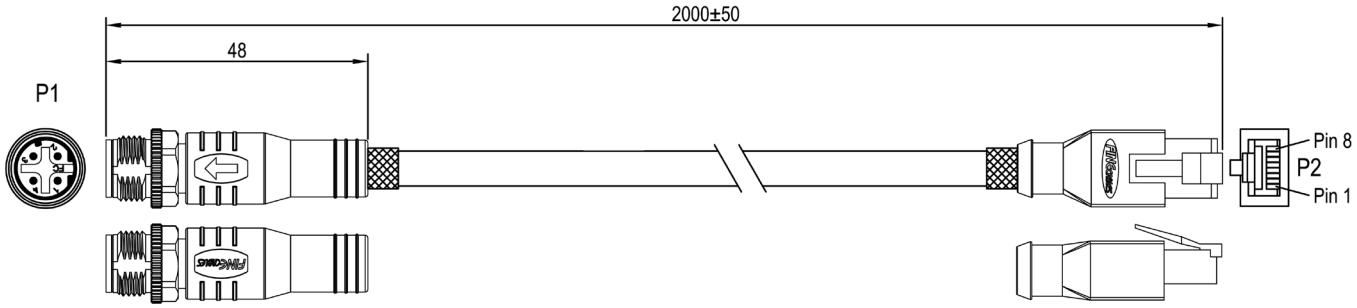
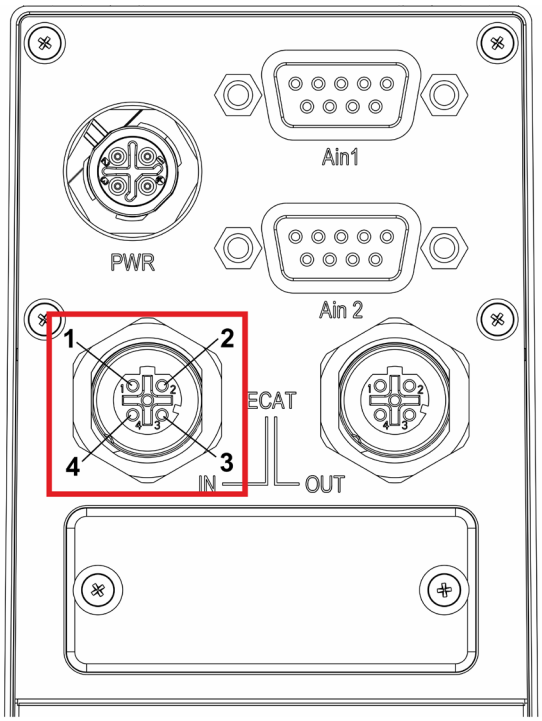


Figure 6: EtherCAT Out Cable

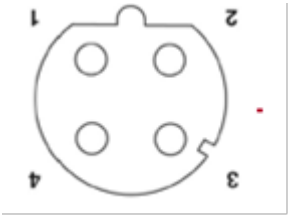
Signal	Pin P1 M12 4-pin Male	Color	Pin P1 RJ-45	Twisted & Shielded Wire
EtherCAT_OUT_TX+	1	White-Orange	1	Pair
EtherCAT_OUT_TX-	3	Orange	2	
EtherCAT_OUT_RX+	2	White-Green	3	Pair
EtherCAT_OUT_RX-	4	Green	6	
	shell	Braid	shell	

Pin Positions

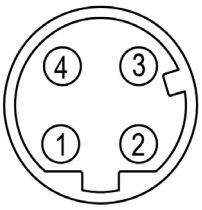


G-DUET-60_Stepper-001A -G

G-DUET-60 Connectors Interface



M12 4 pins Female



M12 4 pins Male

Table 2: EtherCAT OUT - Pin Assignments

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