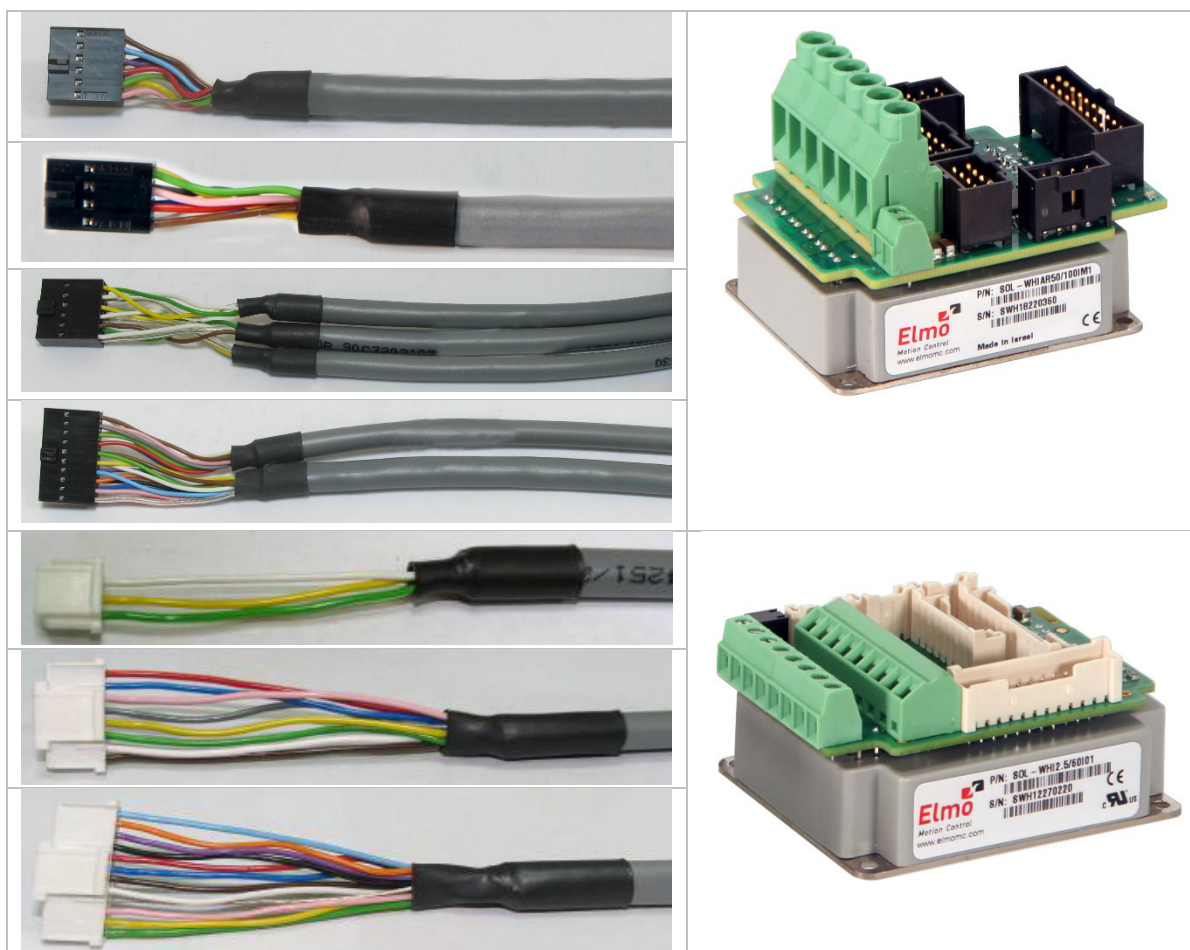


# SimplIQ<sub>Line</sub>

## Solo Whistle Digital Servo Drive Cable Kits



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## Revision History

Version	Date	Details
Ver. 1.0	Dec 2008	Initial Release
Ver. 2.0	Jul 2018	Completely updated version release
Ver. 2.1	Dec 2018	Updated Chapter 1 Introduction with pictures of Solo Whistle to clarify which cable kit applicable





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## Chapter 1: Introduction

This document provides the wiring details for the cables used to connect Elmo SOLO-WHISTLE digital servo drive with the end-user application. The servo drive-side pinouts are provided in Chapter 3 of the drive's installation guide. There are two cable kits for the Solo Whistle:

Cable Kit		
<p>Solo Whistle with suffix 01 to 08</p> 	<p>CBL-SOLKIT-001</p>	
<p>Solo Whistle with suffix M1 or M2</p> 	<p>CBL-SOLKIT-002</p>	<p>Each kit includes a 2.54mm Crimp 4-Pins Connector and Crimping pins for the brake and PTC.</p>

The cables are provided in a single length: 2 meters (6 ½ feet). Other lengths are available on request.



## Chapter 2: Solo Whistle Cable Kit - CBL-SOLKIT-001

### 2.1 Solo Whistle Connectors

The table below presents the connector panel of the Solo Whistle drive and specifies the cable connectors.

Pins	Type	Connector Manufacturer and Part Number	Port
9	3.5 mm Pitch	Wires	J1
12	2 mm Pitch	Molex 35507-1200	J2
8	2 mm Pitch	Molex 35507-0800	J3
12	2 mm Pitch	Molex 35507-1200	J4
3	2 mm Pitch	Molex 35507-0300	J5
3	2 mm Pitch	Molex 35507-0300	J6
3	2 mm Pitch	Molex 35507-0300	J7
8	3.81mm Pitch 16-18 AWG Wires	Wires	J8

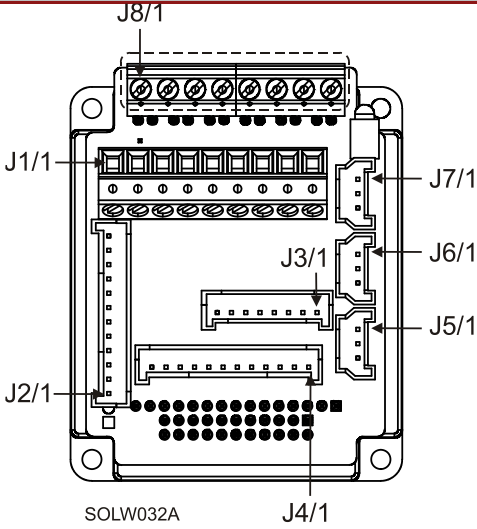
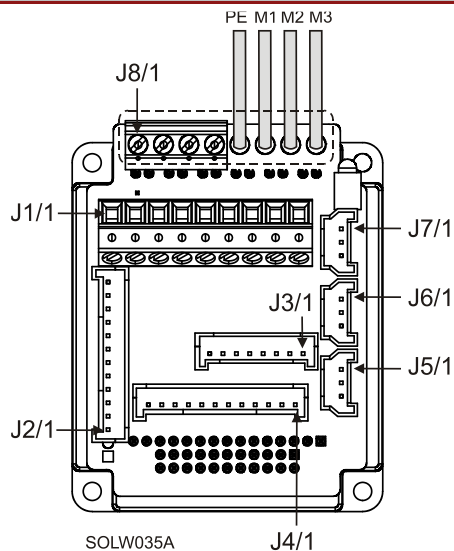
Connector Locations	
 <p>SOLW032A</p>	 <p>SOLW035A</p>

Table 1: Connectors on the Solo Whistle Drive



## 2.2 Cable Kit Details

The kit contain six cables in CBL-SOLKIT-001 for the Solo Whistle between 28 to 24 AWG. All the cables are 2 m long. The contents of each kit are listed below:

Cable Application	CBL-SOLKIT-001	Pins	Pins Location
Main Feedback	CBL-MLXFDBK	12	J4
Auxiliary Feedback	CBL-MLXAUX	8	J3
RS232 Communication	CBL-MLXAI	3	J5
CANIN	CBL-MLXAI	3	J6
CANOUT	CBL-MLXAI	3	J7
I/O	CBL-MLXFDBK	12	J2

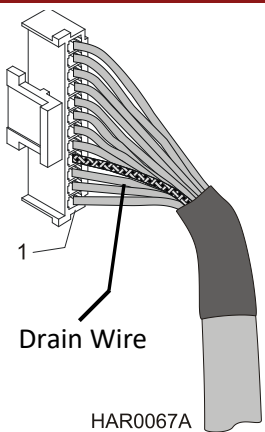
Table 2: Cable Kit for the Solo Whistle Drive



## 2.3 Main Feedback Cable (CBL-MLXFDBK)

The main feedback cable is provided as a cable between 28 to 24 AWG, six twisted-pair shielded. There is one type of feedback cable, which uses a 12-pin Molex 2 mm pitch plug on the *SimpliIQ* side.

The Main Feedback Cable (CBL-MLXFDBK) is open on the motor side so that it can be connected to customer-specific connectors.

Pin No.	Color	Twisted & Shielded Wire	Description	
1	Green	Pair	see Installation Guide	
2	Yellow		see Installation Guide	
3	Pink		see Installation Guide	
4	Drain wire		see Installation Guide	
5	White	Pair	see Installation Guide	
6	Brown		see Installation Guide	
7	Blue	Pair	see Installation Guide	
8	Red		see Installation Guide	
9	Black	Pair	see Installation Guide	
10	Purple		see Installation Guide	
11	Orange	Pair	see Installation Guide	
12	Cyan		see Installation Guide	



The specific functionality of each pin is fully outlined in the Solo Whistle *Installation Guide*.

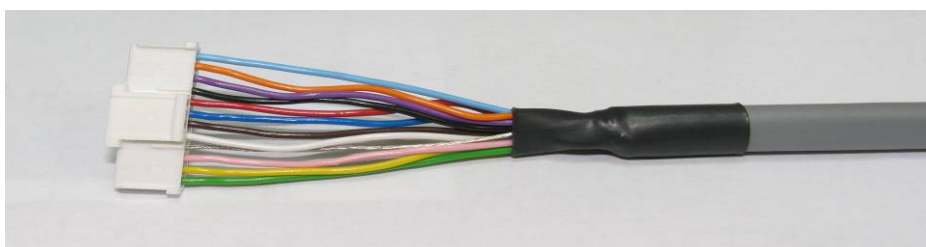


Figure 1: Main Feedback Cable (Part No. CBL-MLXFDBK)



## 2.4 Auxiliary Feedback Cable (CBL-MLXAUX)

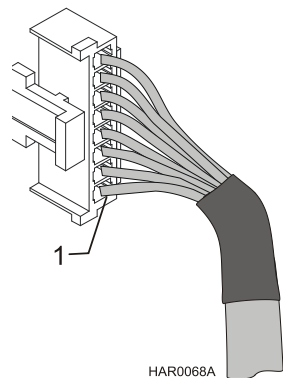
The auxiliary feedback cable is provided as a cable between 28 to 24 AWG twisted-pair shielded. It is connected using an 8-pin Molex 2 mm pitch plug.

Four options — described in the *Auxiliary Feedback* section(s) in the Solo Whistle *Installation Guide* — are available for auxiliary feedback:

- Main encoder buffered outputs
- Differential encoder inputs
- Single-ended encoder input
- Pulse-and-direction input

The Auxiliary Feedback cable (CBL-MLXAUX) is open on the motor side so that it can be connected to customer-specific connectors.

The general pinout of the auxiliary feedback cable is as follows:

Pin No.	Color	Twisted & Shielded Wire	Description	
1	Brown	Pair	see Installation Guide	
2	White			
3	Green	Pair	see Installation Guide	
4	Yellow			
5	Gray	Pair	see Installation Guide	
6	Pink			
7	Blue	Pair	see Installation Guide	
8	Red			



The specific functionality of each pin is fully outlined in the Solo Whistle *Installation Guides*.

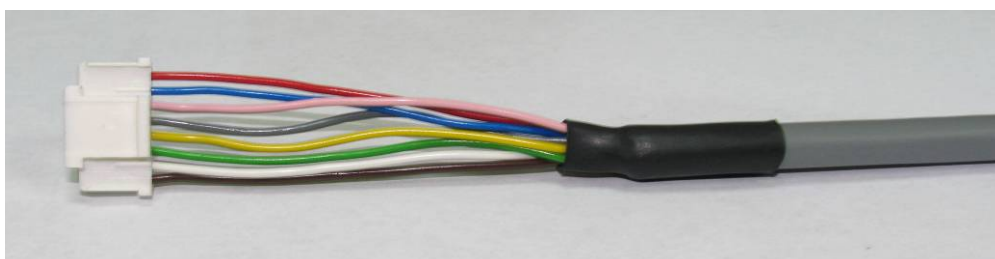


Figure 2: Auxiliary Feedback Cable (Part No. CBL-MLXAUX)





## 2.5 Communication Cables

The communication cables are provided as cables between 28 to 26 AWG two twisted pair shielded. They are connected using a 3-pin Molex 2 mm pitch plug. Elmo drives can communicate using the following options:

- RS-232, full duplex
- CAN open (CAN in & CAN out)

The Communication Cables (CBL-MLXAI) are open on the controller side so that it can be connected to customer-specific connectors.

### 2.5.1 RS232 Communication Cable (CBL-MLXAI)

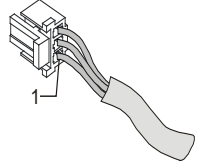
Pin No.	Color	Twisted & Shielded Wire	Signal	Description	
1	Green	Pair	RX	RS-232 receive	
2	Yellow		TX	RS-232 transmit	
3	White		COMRET	Communication return	



Figure 3: RS232 Communication Cable (Part No. CBL-MLXAI)

### 2.5.2 CAN In & Out Communication Cables (CBL-MLXAI)

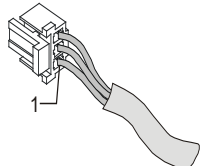
Pin No.	Color	Twisted & Shielded Wire	Signal	Description	
1	Green	Pair	CAN_GND	CAN ground	
2	Yellow		CAN_L	CAN_L busline (dominant low)	
3	White		CAN_H	CAN_H busline (dominant high)	



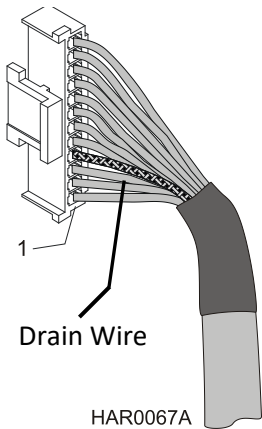
Figure 4: CAN In and Out Communication Cable (Part No. CBL-MLXAI)



## 2.6 I/O Cable (CBL-MLXFDBK)

The I/O cable is provided as a cable between 28 to 24 AWG, six twisted-pair shielded. There is one type of I/O cable, which uses a 12-pin Molex 2.0 mm pitch plug on the *SimplIQ* side.

The I/O Cable (CBL-MLXFDBK) is open on the controller side so that it can be connected to customer-specific connectors.

Pin No.	Color	Twisted & Shielded Wire	Description	
1	Green	Pair	see Installation Guide	
2	Yellow			
3	Pink		see Installation Guide	
4	Drain wire		see Installation Guide	
5	White	Pair	see Installation Guide	
6	Brown			
7	Blue	Pair	see Installation Guide	
8	Red			
9	Black	Pair	see Installation Guide	
10	Purple			
11	Orange	Pair	see Installation Guide	
12	Cyan			



The specific functionality of each pin is fully outlined in the Solo Whistle *Installation Guide*.

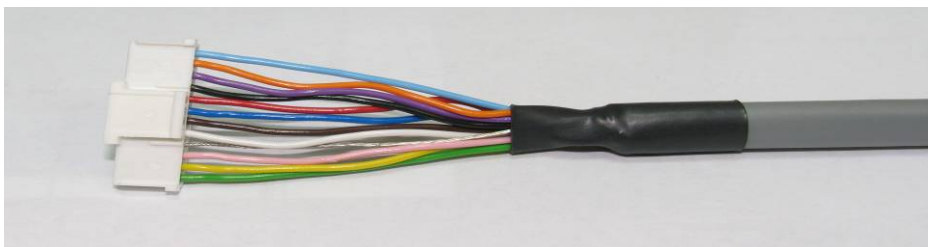


Figure 5: I/O Cable (Part No. CBL-MLXFDBK)



## Chapter 3: Solo Whistle Cable Kit - CBL-SOLKIT-002

### 3.1 Solo Whistle Connectors

The table below presents the connector panel of the Solo Whistle drive and specifies the cable connectors.

Pins	Type	Connector Manufacturer and Part Number	Port
7 or 6	5.08 mm Pitch/14-18AWG Wires	Wires	Power connector
	6.35 mm Pitch/10-12AWG Wires	Wires	Power connector
2	3.5 mm Pitch	Wires	J3 (VL)
4	2.54 mm Pitch	Molex 90156-0144	J1
20	2.54 mm Pitch	Molex 90142-0020	J7
12	2.54 mm Pitch	Molex 90142-0012	J4
12	2.54 mm Pitch	Molex 90142-0012	J5
8	2.54 mm Pitch	Molex 90142-0008	J6

#### Connector Locations

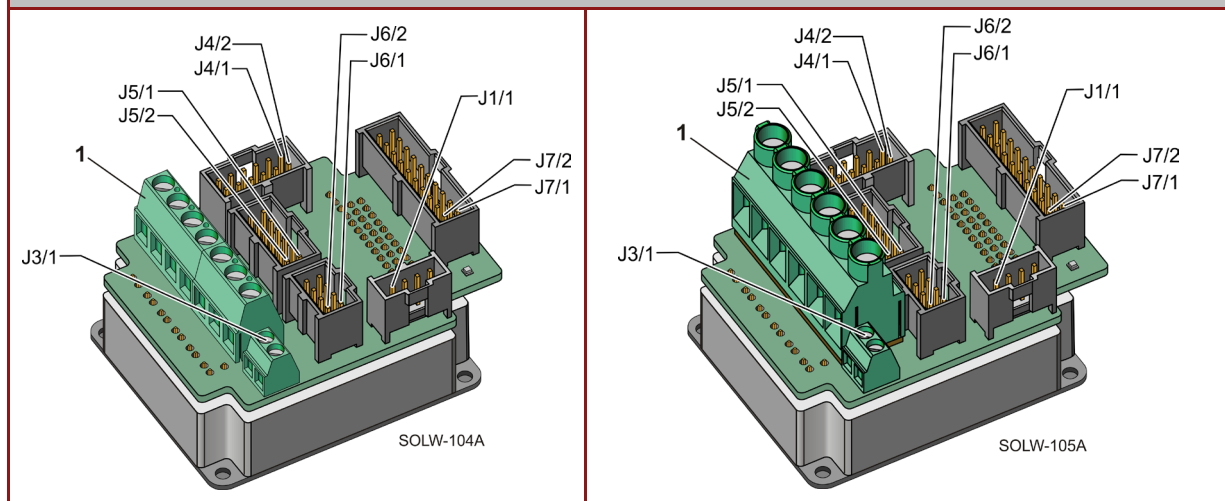


Table 3: Connectors on the Solo Whistle Drive



## 3.2 Cable Kit Details

The kit contain four cables in CBL-SOLKIT-002 for the Solo Whistle 28 AWG. All the cables are 2 m long. The contents of each kit are listed below:

Cable and Connectors for CBL-SOLKIT-002		Pins	Pin Location
Main Feedback	CBL-GPORTA001	12	J5
Main Feedback Buffered Output	CBL-HDRPD-002	8	J6
Communication	CBL-HDR006	12	J4
I/O	CBL-HDR005	20	J7
2.54mm Crimp Connector for Brake and PTC	JCW-107604FC	4	J1
Crimping Pins for Brake and PTC	JCW-104601FC	-	-

Table 4: Cable and Pin Cross-Reference for the Solo Whistle Drive



### 3.3 Main Feedback Cable(CBL-GPORTA001)

The main feedback cable CBL-GPORTA001, is a 28 AWG, six twisted-pair shielded cable. There is one type of feedback cable, which uses a 12-pin C-Grid III (Molex) 2.54 mm pitch plug on the *SimpliIQ* side.

The General-Purpose Main Feedback Cable is open on the motor side so that it can be connected to customer-specific connectors.

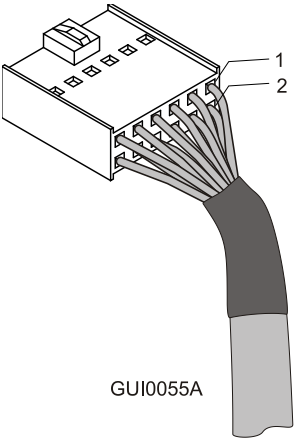
Pin No.	Color	Description	
1	Brown	See installation guide	
2	White	See installation guide	
3	Cyan	See installation guide	
4	Orange	See installation guide	
5	Purple	See installation guide	
6	Black	See installation guide	
7	Red	See installation guide	
8	Blue	See installation guide	
9	Green	See installation guide	
10	Yellow	See installation guide	
11	Pink	See installation guide	
12	Drain wire	See installation guide	

Table 5: Main Feedback Cable for the Solo Whistle Drive



Figure 6: Main Feedback Cable (CBL-GPORTA001)



### 3.4 Main Feedback Buffered Output Cable(CBL-HDRPD-002)

The Solo Whistle main feedback buffered output cable CBL-HDRPD-002 is a 28 AWG, four twisted-pair shielded cable. It is connected using an 8-pin C-Grid III (Molex) plug.

The Main Feedback Buffered Output Cable (CBL-HDRPD-002) is open on the motor side so that it can be connected to customer-specific connectors.

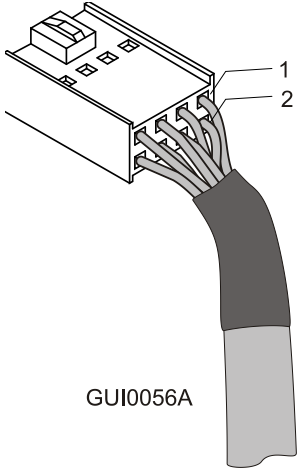
Pin No.	Color	Signal	
1	Green	CHAO	
2	Yellow	CHAO-	
3	Pink	CHBO	
4	Grey	CHBO-	
5	Red	INDEXO	
6	Blue	INDEXO-	
7	Brown	COMRET	
8	White	COMRET	

Table 6: Main Feedback Buffered Output Cable for the Solo Whistle Drive



Figure 7: Main Feedback Buffered Output Cable (CBL-HDRPD-002)



### 3.5 Communication Cable(CBL-HDR006)

The communication cable CBL-HDR006, consists of three 28 AWG, two-twisted-pair shielded cables. It is connected using a 12-pin C-Grid III (Molex) plug. This cable (and connector) includes RS-232 and CAN communications.

The Communication Cable (CBL-HDR006) is open on the controller side so that it can be connected to customer-specific connectors.

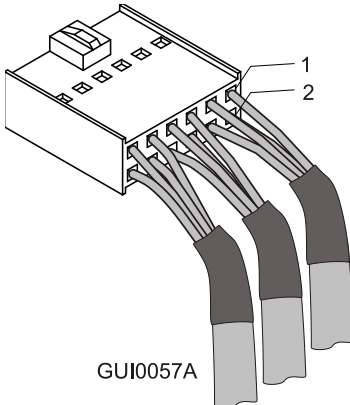
	Pin No.	Color	Signal	
Cable 1	1	Yellow	CAN_L	
	2	Green	CAN_H	
	3	White	CAN_GND	
	4	Drain wire	Shield	
Cable 2	5	Yellow	CAN_L	
	6	Green	CAN_H	
	7	White	CAN_GND	
	8	Drain wire	Shield	
Cable 3	9	Brown	RS232_Tx	
	10	Green	RS232_Rx	
	11	White	RS232_COMRET	
	12	Drain wire	Shield	

Table 7: Communication Cable for the Solo Whistle Drives



Figure 8: Communication Cable (CBL-HDR006)



### 3.6 I/O Cable(CBL-HDR005)

The I/O cable CBL-HDR005 consist of two 28 AWG, twisted-pair shielded cables. It is connected using a 20-pin C-Grid III (Molex) plug.

The I/O Cable (CBL-HDR005) is open on the controller side so that it can be connected to customer-specific connectors.

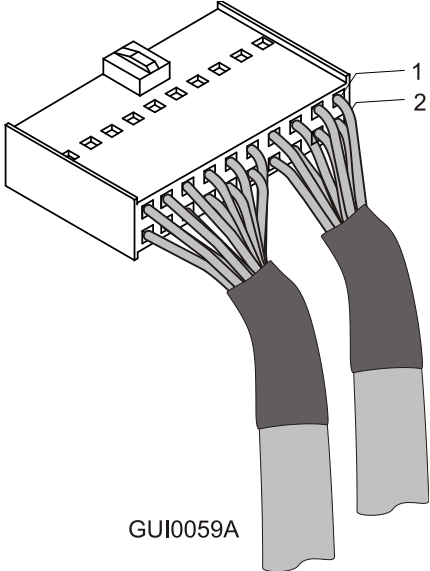
	Pin No.	Color	Signal	
Cable 1	1	Brown	IN2	 <p>GUI0059A</p>
	2	White	INRET	
	3	Grey	IN4	
	4	Pink	IN3	
	5	Green	IN5	
	6	Yellow	INRET	
	7	Red	IN6	
	8	Blue	INRET	
Cable 2	9	Green	VDDIN	
	10	Brown	OUT1	
	11	Yellow	VDDIN	
	12	White	OUT2	
	13	Cyan	VDDRET	
	14	Purple	Not in Use	
	15	Orange	VDDRET	
	16	Black	Not in Use	
	17	Pink	ANLRET	
	18	Blue	ANLIN1+	
	19	Drain wire	Shield	
	20	Red	ANLIN1-	

Table 8: I/O Pin and Cable for the Solo Whistle Drives

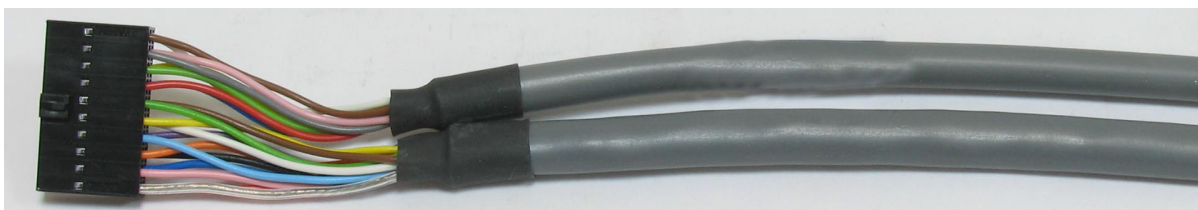


Figure 9: I/O Cable (CBL-HDR005)





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