Motor Driver Connection Cable Installation Guide

Thank you for purchasing Digital's "Motor Driver Connection Cable" (FN-PC10CB01) for Single Axis Positioning Unit (FN-PC10SK41). To ensure correct use of this unit's functions and features, be sure to carefully read both this Installation Guide and the separately sold Flex Network Single Axis Positioning Unit User Manual.

Safety Precautions

⚠ Warning

Whenever installing, dismantling, wiring, and conducting maintenance or inspections, be sure to disconnect power to this unit to prevent the possibility of electric shock or fire.

⚠ Caution

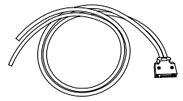
- This unit must be properly installed according to directions in the Installation Guide and User Manual. Improper installation may cause the unit to malfunction, or operate incorrectly.
- This unit must be properly wired according to directions in the Installation Guide and User Manual. Improper wiring may cause a unit malfunction, failure or electric shock.
- When disposing of this unit, it should be disposed of according to your country's industrial waste disposal laws.

■ To Prevent Unit Damage

Do not store or operate this unit in either direct sunlight or excessively dusty or dirty environments.

Package Contents

■ Motor Driver Connection Cable (1m) (FN-PC10CB01)



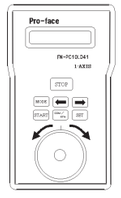
■ Motor Driver Connection Cable Installation Guide (this guide)

Installation Guide

Optional Items (sold separately)

■ Single-Axis Positioning Unit (FN-PC10SK41)

■ Single-Axis Positioning Unit Teaching Loader (FN-PC10LD41)

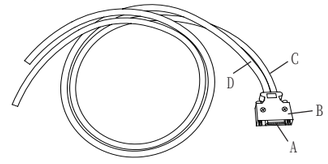


Maintenance Item

■ Single-Axis Positioning Unit Teaching Loader Cable (5m) (FN-LD10CBL)

1 Cable Specifications

■ Motor Driver Connection Cable (PC10CB01)



A: Connector..... Connected to Single-Axis Positioning Unit's CN1 connector. (Sumitomo/3M: Model No. 10126-3000VE)

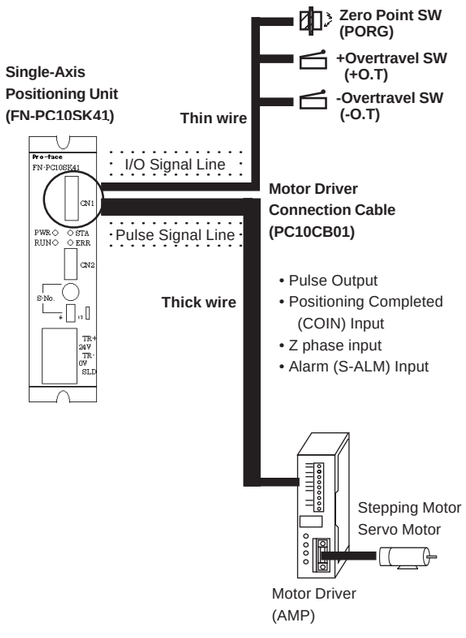
B: Cover ..... Connected to Single-Axis Positioning Unit's CN1 connector. (Sumitomo/3M: Model No. 10326-52A0-008)

C: Cable (Thin) ..... Connected to Origin Point Limit SW, +/- O.T, Positioning Completed devices.

D: Cable (Thick) ..... Connected to Motor Driver (Amp).

2 Flex System Design

The following diagram shows a standard Flex Network system design for the Motor Driver Connection Cable. This cable is connected to the Single-Axis Positioning Unit's CN1 connector. The Pulse Signal line is connected to the Servo Amp or to the Stepping Driver. The Input/Output signal line is connected tot he Origin Point SW, +/-Overtravel SW, or Positioning Completed SW.

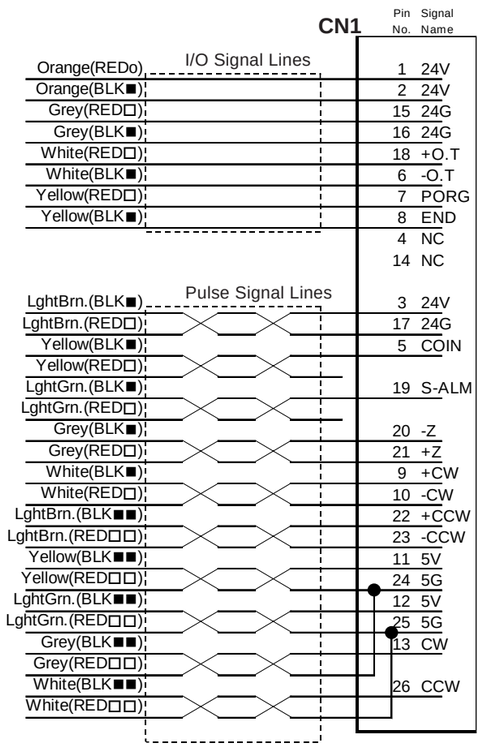


4 Connection Drawing

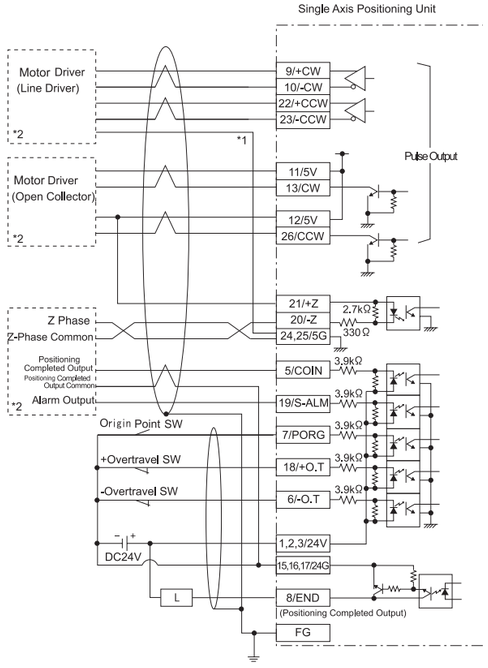
CN1		Motor Driver Connection Cable				Sig. Line
Pin No.	Sig. Name	Color	Mark Col.	No. of Marks	Thick/ Thin	
3	24V	LightBrn.	Black	1	Thick Wire	Pulse Signal
5	COIN	Yellow	Black	1		
9	+CW	White	Black	1		
10	-CW	White	Red	1		
11	5V	Yellow	Black	2		
12	5V	LightGrn.	Black	2		
13	CW	Grey	Black	2		
17	24G	LightBrn.	Red	1		
19	S-ALM	LightGrn.	Black	1		
20	-Z	Grey	Black	1		
21	+Z	Grey	Red	1		
22	+CCW	LightBrn.	Black	2		
23	-CCW	LightBrn.	Red	2		
24	5G	Yellow	Red	2		
		Grey	Red	2		
25	5G	LightGrn.	Red	2		
		White	Red	2		
26	CCW	White	Black	2		
—	—	Yellow *	Red	1		
—	—	LightGrn.*	Red	1		
—	—	Yellow *	Black	3		
—	—	Yellow *	Red	3		
—	—	LightBrn.*	Black	3		
—	—	LightBrn.*	Red	3		
—	—	LightGrn.*	Black	3		
—	—	LightGrn.*	Red	3		
1	24V	Orange	Red	1	Thin Wire	Signal Input
2	24V	Orange	Black	1		
6	-0.T	White	Black	1		
7	PORG	Yellow	Red	1		
8	END	Yellow	Black	1		
15	24G	Grey	Red	1		
16	24G	Grey	Black	1		
18	+0.T	White	Red	1		
—	—	Pink*	Red	1		
—	—	Pink*	Black	1		

** Do not use CN1 connector pins 4, 14 and lines shown with a "*"mark.*

■ Motor Driver Connection Cable Wiring Diagram



■ Z Phase (with Open Collector)



**1 The FN-PC unit's live line is not isolated. If it is connected to a non-isolated servo driver, be sure to connect the signal ground (5G) to prevent an over-current accident.*

**2 For motor driver connection details, refer to "Flex Network Single Axis Positioning Unit User Manual appendix1".*

Pin No.	Signal No.	Type	Description
1	24V	Input Voltage	Controller Input Voltage DC24V
2			
3			
4	NC		
5	COIN	Control Input	Positioning completed input signal from Motor Driver
6	-O.T		CCW direction overtravel signal (a contact/b contact)
7	PORG*1		Origin point switch (a contact)
8	END	Control Output	Positioning completed output
9	+CW	Pulse Output	CW direction pulse output (Line Driver)
10	-CW		
11	+5V	Output Voltage	Pulse output voltage (for Open collector)
12			
13	CW	Pulse Output	CW direction pulse output (non-logical Open Collector)
14	NC		
15	24G	Input Voltage	Controller Input Voltage DC0V
16			
17			
18	+O.T	Control Input	CW direction overtravel signal (a contact, b contact)
19	S-ALM		Motor Driver Alarm Input
20	-Z (ORG)	Z Phase Input	Encoder origin point signal
21	+Z (ORG)		
22	+CCW	Pulse Output	CCW direction pulse output (Line Driver)
23	-CCW		
24	5G	Output Voltage	Pulse output voltage (for Open collector)
25			
26	CCW	Pulse Output	CCW direction pulse output (non-logical Open Collector)

**1 PORG should be used for a transistor output's sensor (proximity switch, etc.)*

Note:

- Be sure to design the cable so that it meets the specifications of your motor driver.
- Be sure to cover any unconnected wire ends with insulating tape to prevent a short circuit with another signal pin.

Note

Please be aware that Digital Electronics Corporation shall not be held liable by the user for any damages, losses,or third party claims arising from the uses of this product.

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