



VER 1.1

Hardware Manual

DS-BVM-FETC/FCAO

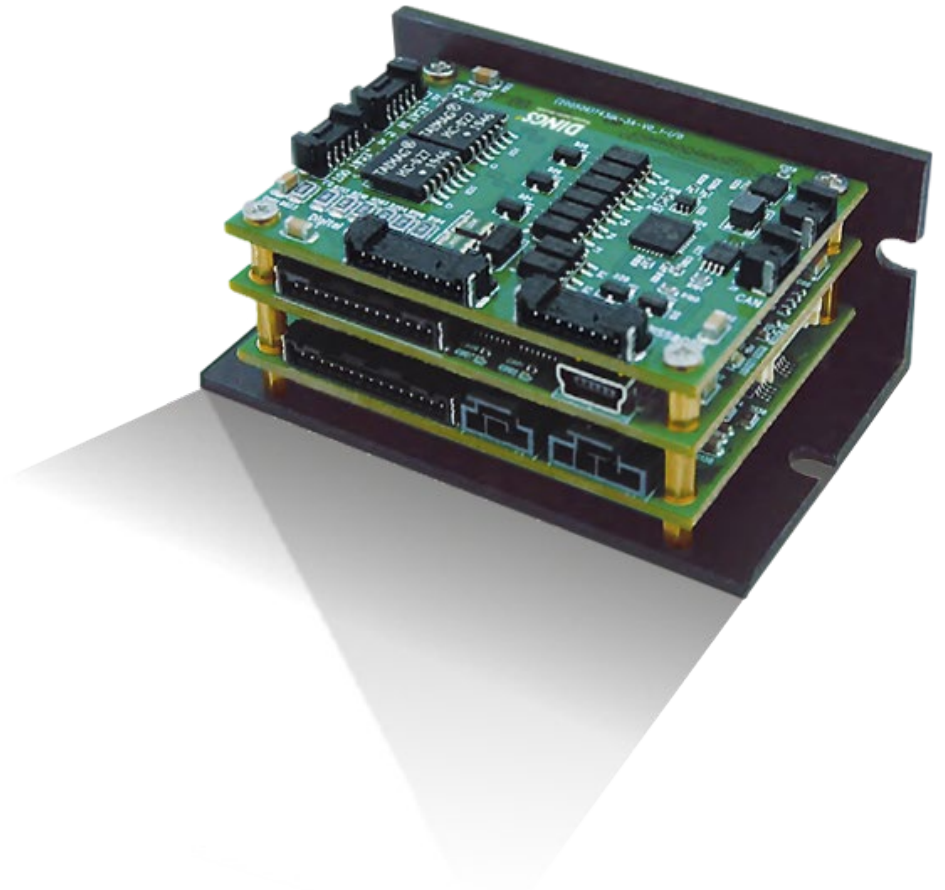
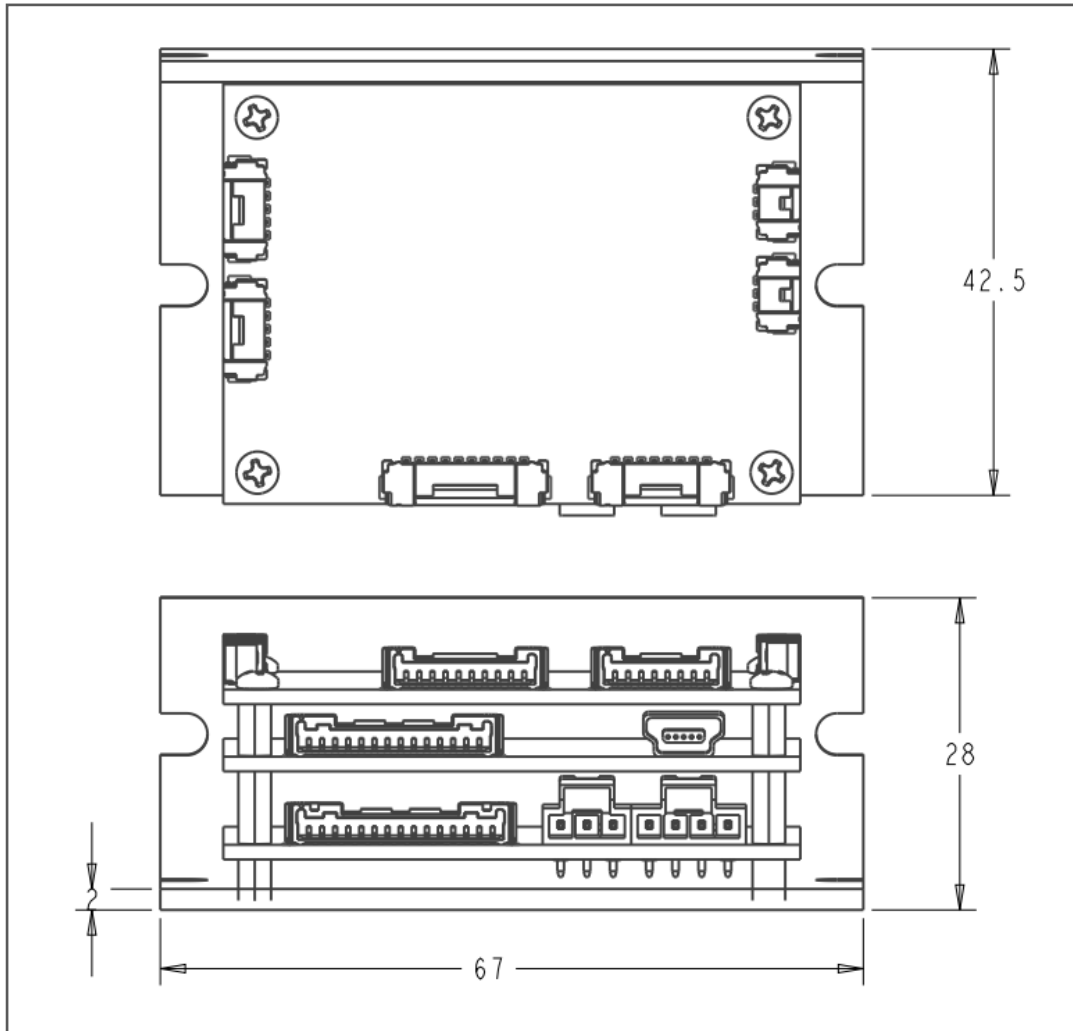


Table of contents

- 1. Technical Information.....3
 - 1.1 Mechanical Data.....3
 - 1.2 Electrical Data.....4
- 2. Wiring.....5
 - 2.1 Tools.....5
 - 2.2 Connections.....5
 - 2.3 Main Power.....6
 - 2.4 UVW.....7
 - 2.5 Digital Encoder.....8
 - 2.6 Analog Encoder.....9
 - 2.7 USB.....10
 - 2.8 Serial Encoder.....11
 - 2.9 Digital I/O.....12
 - 2.10 EtherCAT.....13
 - 2.11 CAN.....14

1. Technical Information

1.1 Mechanical Data



Item	Unit	Description
SIZE (L x W x H)	mm	40 x 55 x 25
Fastener	M2	

1.2 Electrical Data

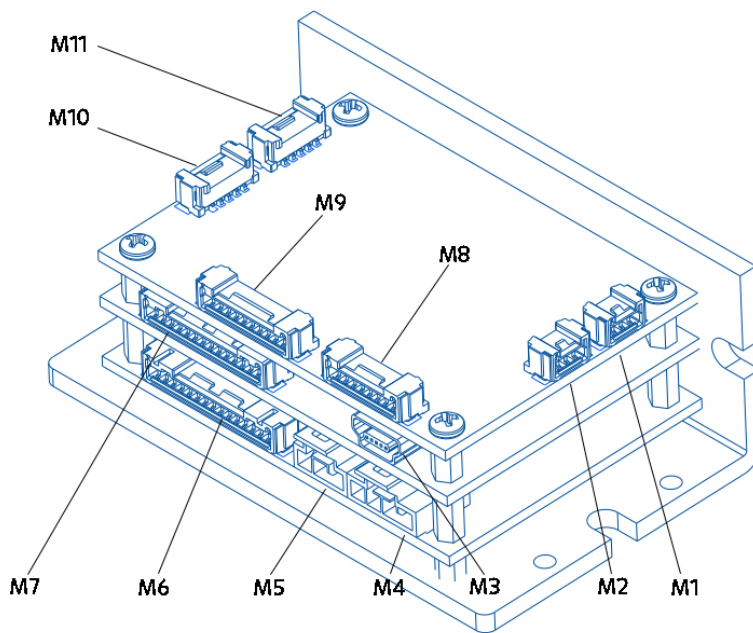
DS-BVM-FETC/FACO			
Basic	Motors	DC/BLDC/PMSM/VCM	
	Communication	USB + CANopen + EtherCAT(CoE, FoE)	
	GUI	DINGS' Servo Studio	
	Position Sensor	Incremental Encoder	
		Shared/Separated Hall Sensor	
Analog Hall Sensor			
Sin/Cos Encoder			
Inputs & Outputs	Analog Input	Quantity	1
		Voltage Range	Analog ±10 VDC differential
		Input Resolution	14 bit
	Digital Input	Quantity	6 (with STO)
		Signal	Configurable. Opto-isolated
		Voltage	24V
	Digital Output	Quantity	2
		Signal	Configurable. Opto-isolated. Open collector
		Voltage	24V
		Max. Output Current	50mA
Motor Feedback	General	Supply Voltage	5VDC
	Incremental Encoder	Signal	A-quad-B with or without index, shared digital hall sensor, RS422, Differential
		A-quad-B Max Input Frequency	10MHz (before quadrature)
	Digital Hall Sensor	Signal	Differential-ended
		Type	Separated and shared hall sensor
	Analog Hall Sensor	Signal	0~5V, Single-ended
		Sampling Frequency	24KHz
Sin/Cos Encoder	Signal	-0.7~+0.7V at 2.5V	
	Sampling Frequency	24KHz	
	Serial Encoder	Type	SSI, Biss-C
Bite rate		0.5Mbps, 1Mbps, 2Mbps, 2.5Mbps, 5Mbps	

2. Wiring

2.1 Tools

Tool	Manufacturer	Part Number
Hand crimp Tool	MOLEX	638275600
Hand crimp Tool	MOLEX	2002180300

2.2 Connections



M1, M2 → CAN

M3 → USB

M4 → Motor Power

M5 → Main Power

M6 → Digital Encoder

M7 → Analog Encoder

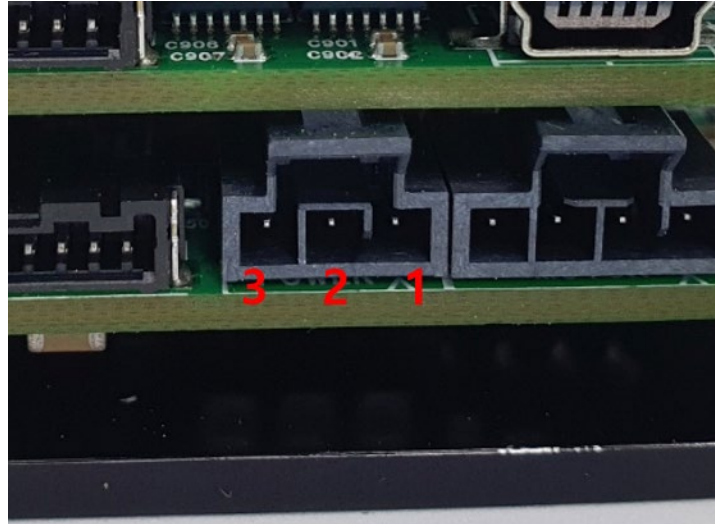
M8 → Serial Encoder

M9 → Digital I/O

M10 → EtherCAT Output

M11 → EtherCAT Input

2.3 Main Power



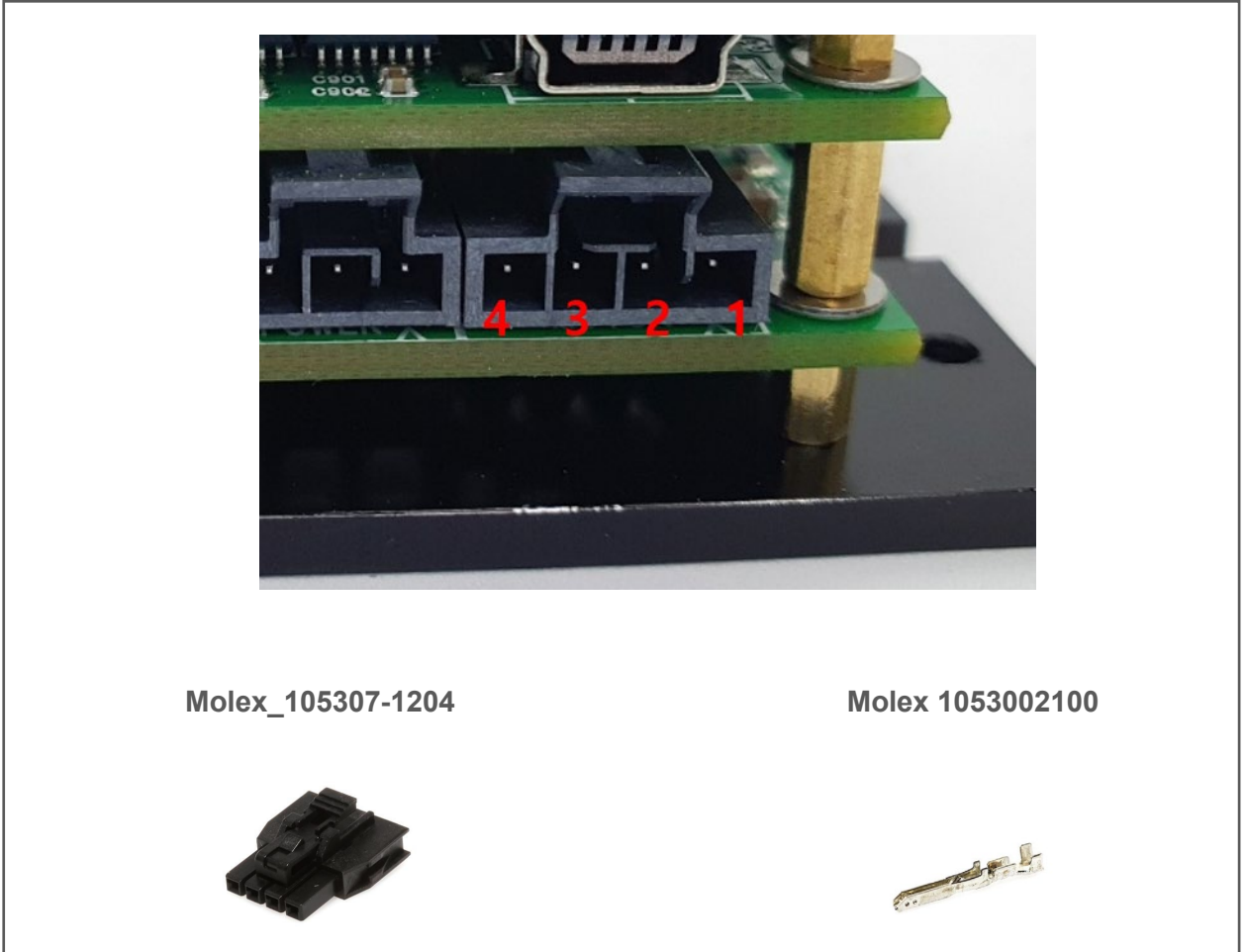
Molex_105307-1203

Molex 1053002100



MOLEX 105313-1103		J1
Pin	Signal	
1	VCC	
2	GND	
3	FG	

2.4 UVW



Molex_105307-1204

Molex 1053002100



MOLEX 105313-1104		J101
Pin	Signal	
1	U	
2	V	
3	W	
4	FG	

2.5 Digital Encoder



Molex_505565_1501

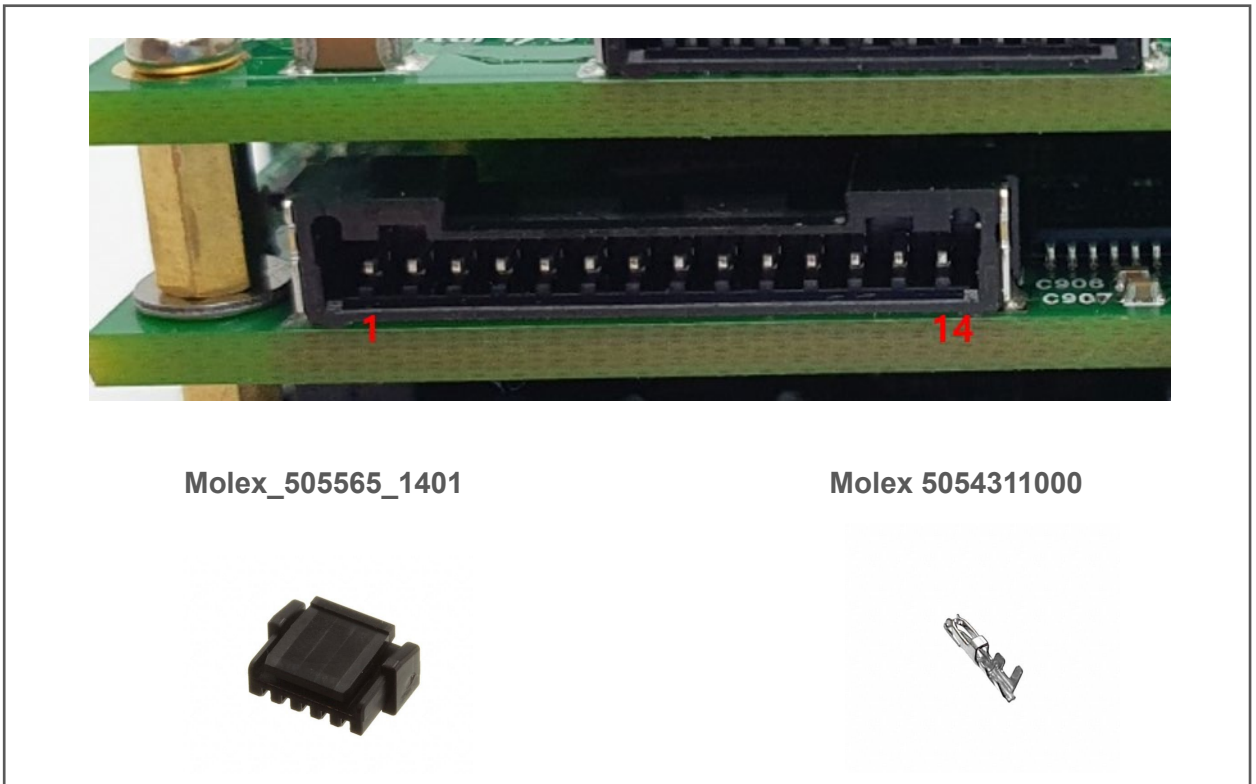


Molex 5054311000



MOLEX 505567-1571	J201
Pin	Signal
1	5V
2	GND
3	Encoder A+
4	Encoder A-
5	Encoder B+
6	Encoder B-
7	Encoder I+
8	Encoder I-
9	HALL U+
10	HALL U-
11	HALL V+
12	HALL V-
13	HALL W+
14	HALL W-
15	FG

2.6 Analog Encoder



Molex_505565_1401

Molex 5054311000



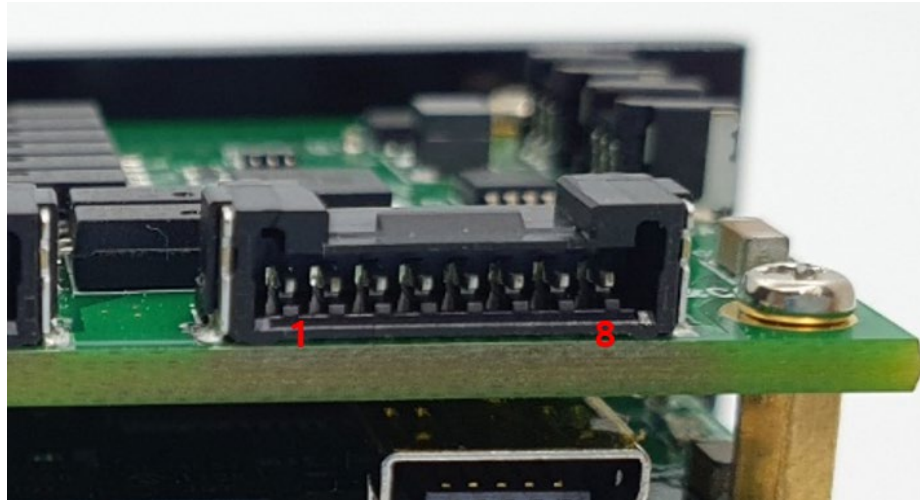
MOLEX 505567-1471		J901
Pin	Signal	
1	SIN+	
2	SIN-	
3	COS+	
4	COS-	
5	REF+	
6	REF-	
7	5V	
8	GND	
9	FG	
10	AHALL_U	
11	AHALL_V	
12	AHALL_W	
13	AIN+	
14	AIN-	

2.7 USB



USB-Mini Type B (Keystone Model:937)		J101
Pin		Signal
1	VBUS	
2	DM	
3	DP	
4	ID	
5	GND	
6	SHIELD	

2.8 Serial Encoder



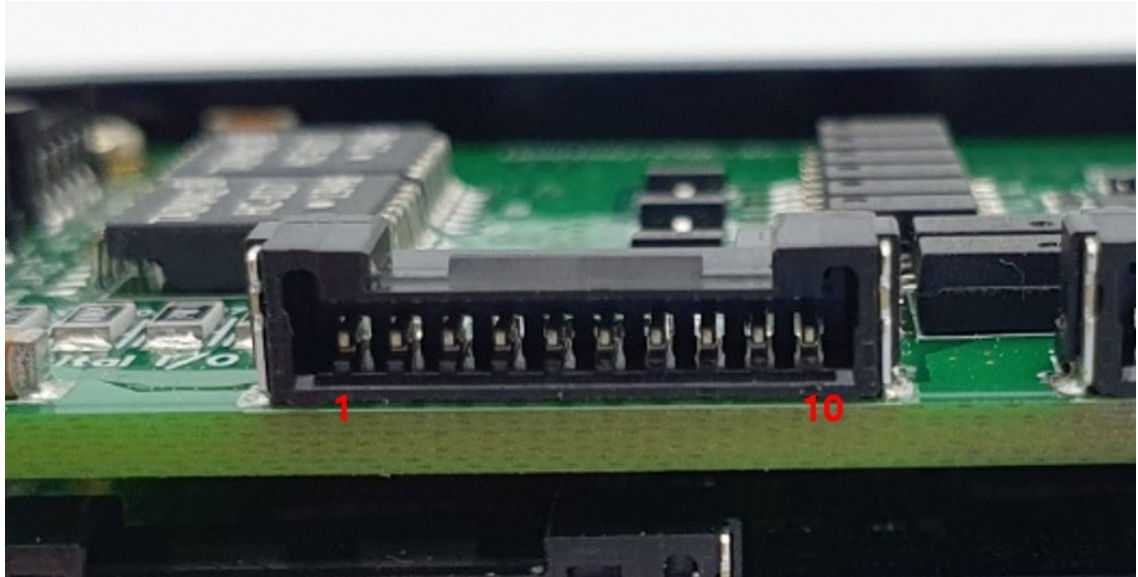
Molex_505565_0801

Molex 5054311000



Molex 505567-0871		J801
Pin		Signal
1		BISS_DATA+
2		BISS_DATA-
3		BISS_CLK+
4		BISS_CLK-
5		5V
6		GND
7		RS485_RTX+
8		RS485_RTX-

2.9 Digital I/O



Molex_505565_1001



Molex 5054311000



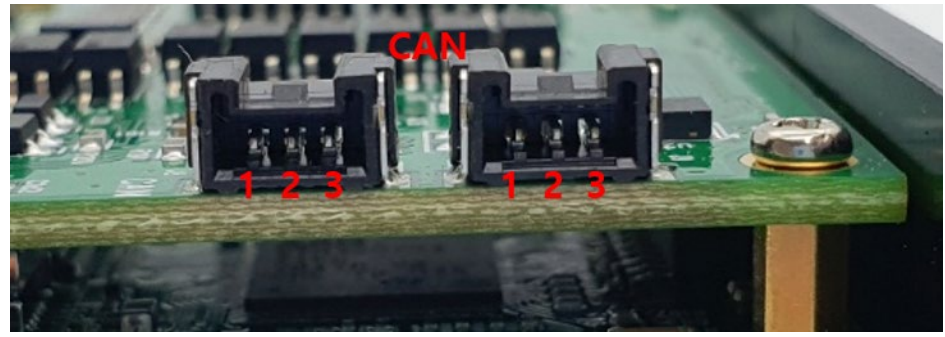
Molex 505567-1071		J13
Pin	Signal	
1	STO	
2	NEGATIVE_LIMIT	
3	POSITIVE_LIMIT	
4	HOME	
5	GPI 0	
6	GPI 1	
7	GPI_COMMON	
8	GPO 0	
9	GPO 1	
10	GPO_COMMON	

2.10 EtherCAT



Molex 505567-0571		J10, J11
Pin		Signal
1	EtherCAT Tx+	
2	EtherCAT Tx-	
3	EtherCAT Rx+	
4	EtherCAT Rx-	
5	NCs	

2.11 CAN





Molex_505565_0301


Molex 5054311000



Molex 505567-0371		J8, J9
Pin		Signal
1	HIGH	
2	LOW	
3	GND	

 +86-0519-8517 7825

 +86-0519-8517 7807

 No. 2850 Luheng Road, Changzhou Economic
Development Zone, Jiangsu Province, China

 www.dingsmotion.com

International Customer

Person in Charge :

Daniel Jang

daniel@dingsmotion.com

No. 2850 Luheng Road, Changzhou
Economic Development Zone,
Jiangsu Province, China

+86-519-85177825, 85177826

North America Customer

Person in Charge :

Nicolas Ha

sales@dingsmotionusa.com

335 Cochrane Circle Morgan Hill,
CA 95037

+1-408-612-4970

China Customer

Person in Charge :

Sweet Shi

info@dingsmotion.com

No. 2850 Luheng Road, Changzhou
Economic Development Zone,
Jiangsu Province, China

+86-519-85177825, 85177826