

## 8. External Wiring

[ K7F-POAA ]

I/O	Internal Circuit	Pin No.		Signal Name
		X-axis	Y-axis	
		14	22	Upper Limit
		15	23	Lower Limit
		16	16	Emergency Stop
		24	25	Origin Limit
		10, 17	20	Input Common
		1	1	Encoder DC +5V Vcc
		3	9	Encoder A phase
		4	10	Encoder A* phase
		15, 16	15, 16	Encoder DC +5V GND
		1	1	Encoder DC +5V Vcc
		5	11	Encoder B phase
		6	12	Encoder B* phase
		15, 16	15, 16	Encoder DC +5V GND
		1	1	Encoder +5V Vcc
		7	13	Encoder Z phase
		8	14	Encoder Z* phase
		15, 16	15, 16	Encoder DC +5V GND
		18		X-axis voltage output
			19	Y-axis voltage output
		5, 6, 7	8, 9, 21	Signal GND
		12		X-axis Servo On signal
		4	4	Servo On common
			11	Y-axis Servo On signal
		4	4	Servo On common

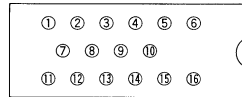
### Pin assignment of connectors

#### 1) SERVO



Pin No	Name	I/O Type	Function
1	Not used	-	-
2	Not used	-	-
3	Not used	-	-
4	Sv On Com	Output	Common of Servo On Signal
5	Output Sig GND	Power	Common of Voltage Output Signal
6			
7			
8			
9			
10	In Com	Power	Common of External Power Supply (+24V)
11	Y-axis Servo On	Output	Y-axis Servo On output signal
12	X-axis Servo On	Output	X-axis Servo On output signal
13	Not used	-	-
14	X-axis + Over Run	Input	Upper Limit S/W Input (N.C)
15	X-axis - Over Run	Input	Lower Limit S/W Input (N.C)
16	Emergency Stop	Input	Emergency Stop Limit S/W Input (N.C)
17	In Com	Power	Common of External Power Supply (+24V)
18	X-axis Speed	Output	Output of X-axis Speed command voltage
19	Y-axis Speed	Output	Output of Y-axis Speed command voltage
20	In Com	Power	Common of External Power Supply (+24V)
21	Output Sig GND	Power	Common of Voltage Output Signal
22	Y-axis + Over Run	Input	Upper Limit S/W Input (N.C)
23	Y-axis - Over Run	Input	Lower Limit S/W Input (N.C)
24	X-axis Origin	Input	Origin Limit S/W Input (N.O)
25	Y-axis Origin	Input	Origin Limit S/W Input (N.O)

#### 2) Encoder



Pin No	Name	I/O Type	Function
1	Encoder Vcc	Power	DC +5V Vcc
2	Not used	-	-
3	X-Enc-A	Input	Input of X-axis Encoder A phase
4	X-Enc-A*	Input	Input of X-axis Encoder A* phase
5	X-Enc-B	Input	Input of X-axis Encoder B phase
6	X-Enc-B*	Input	Input of X-axis Encoder B* phase
7	X-Enc-Z	Input	Input of X-axis Encoder Z phase
8	X-Enc-Z*	Input	Input of X-axis Encoder Z* phase
9	Y-Enc-A	Input	Input of Y-axis Encoder A phase
10	Y-Enc-A*	Input	Input of Y-axis Encoder A* phase
11	Y-Enc-B	Input	Input of Y-axis Encoder B phase
12	Y-Enc-B*	Input	Input of Y-axis Encoder B* phase
13	Y-Enc-Z	Input	Input of Y-axis Encoder Z phase
14	Y-Enc-Z*	Input	Input of Y-axis Encoder Z* phase
15	Encoder GND	Power	DC +5V Ground
16	Encoder GND	Power	DC +5V Ground

### Using the DIP switch

The DIP switch is located on the side of the K7F – POAA module.

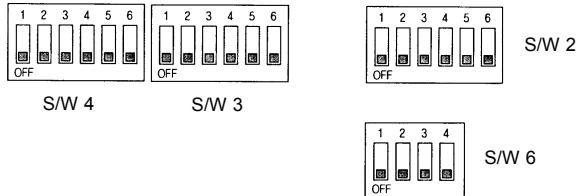
<Uses>

SW2 : Used to select whether inputs will be given to the Line Driver to Open Collector.

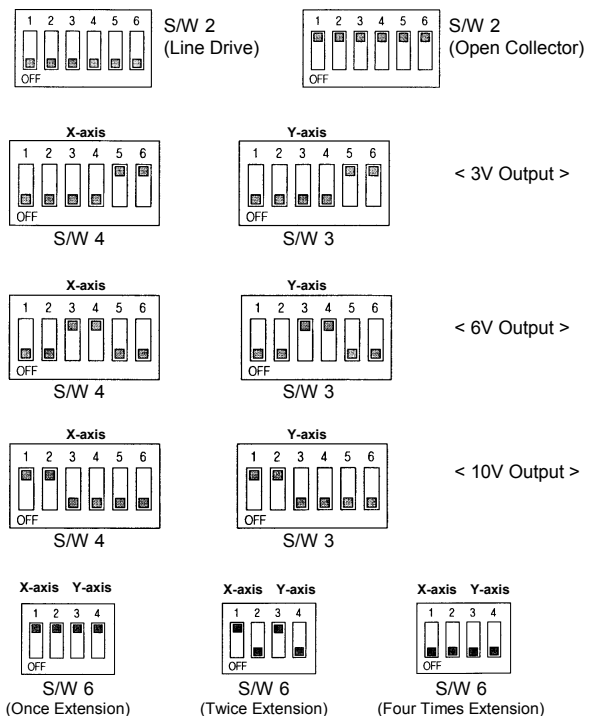
SW3,4 : Used to select on output voltage between 0 to 3V, 0 to 6V and 0 to 10V  
SW3 is used for Y axis output voltage and SW4 for X axis.

SW6 : Used to select an extension rate of the encoder inputs between once, twice and four times extensions.

<Appearance>



< Selection Method >



[ K7F-POPA ]

I/O	Internal Circuit	Pin No.		Signal Name
		X-axis	Y-axis	
N.C I N P U T		3	3	Upper Limit
		18	18	Lower Limit
		19	19	Emergency Stop
		22	22	Origin Limit
		21	21	Input Common
Origin Input		24	24	Z phase (O.C 24V)
		25	25	Z phase (Line Driver 5V)
		15	15	Z phase Common
M P G		9	9	MPG A phase
		8	8	Common of A phase
		16	16	MPG B phase
		7	7	Common of B phase
		4, 5	4, 5	5/24V Common
		2	2	Forward Pulse
10		10	5/24V GND	
4, 5		4, 5	5/24V Common	
O U T P U T		11	11	Reverse Pulse
		10	10	5/24V GND
		4, 5	4, 5	5/24V Common
		10	10	5/24V GND
Input DC Power *1		4, 5	4, 5	5/24V Common
		17	17	+ 5V
		10	10	5/24V GND
		4, 5	4, 5	5/24V Common
		1	1	+ 24V
		10	10	5/24V GND

\*1 : External power supplied to K7F-POPA  
(Use same power for X,Y axes)

■ Pin assignment of connectors



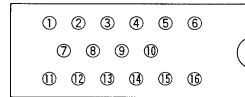
Pin No	Name	Item	Function
1	+ 24V	Power	External incoming power(only when use)
2	FP	Output	Forward direction pulse output
3	+ Over Run	Input	Upper limit switch input (N.C)
4	5/24V Vcc	Input	Common of external input power
5	5/24V Vcc	Input	Common of external input power
6	FG	Power	Frame ground
7	MPG B Common	Input	Common of manual pulse B phase
8	MPG A Common	Input	Common of manual pulse A phase
9	MPG A phase	Input	Input of manual pulse A phase
10	5/24V GND	Power	Ground of external power supply
11	RP	Output	Reverse direction pulse output
12	Not used	-	-
13	Not used	-	-
14	Not used	-	-
15	Z Com	Input	Common of Z phase input
16	MPG B phase	Input	Input of manual pulse B phase
17	+5V	Power	External incoming power(only when use)
18	- Over Run	Input	Lower limit switch input (N.C)
19	Emergency Stop	Input	Emergency limit switch input (N.C)
20	Not used	-	-
21	In Com	Power	Common of external power (+24V)
22	Origin	Input	Origin limit switch input (N.O)
23	Not used	-	-
24	Z Oc	Input	Open Collector input of Z phase (+24V)
25	ZL	Input	Line Drive input of Z phase

[ K4F-POPA ]

I/O	Internal Circuit	Pin No.		Signal Name
		X-axis	Y-axis	
N.C I N P U T		13	Not Used	Upper Limit
		14		Lower Limit
		15		Emergency Stop
		12		Origin Limit
		16		Input Common
Origin Input		9	Not Used	Z phase (O.C 24V)
		4		Z phase (Line Driver 5V)
		8		Common of Z phase
O U T P U T		10	Not Used	5/24V Common
		2		Forward Pulse
		1		5/24V Gnd
		10		5/24V Common
		3	Not Used	Reverse Pulse
		1		5/24V Gnd
		10		5/24V Common
		11		5/24V Gnd
Input DC power *1		10	Not Used	5/24V Common
		11		+ 5V
		1		5/24V Gnd
		10	Not Used	5/24V Common
		7		+ 24V
		1		5/24V Gnd

\*1) : External power supplied to K4F-POPA

■ Pin assignment of connectors



Pin No	Name	Item	Function
1	5/24V GND	Power	Ground of external power supply
2	FP	Output	Forward direction pulse output
3	RP	Output	Reverse direction pulse output
4	ZL	Input	Line Drive input of Z phase
5	Not used	-	-
6	FG	Power	Frame Ground
7	+24V	Power	External incoming power supply(only when use)
8	Z Com	Input	Common of Z phase input
9	Z OC	Input	Open Collector input of Z phase (+24V)
10	5/24V Vcc	Input	Common of external power supply
11	+5V	Power	External incoming power supply(only when use)
12	Origin	Input	Origin limit switch input (N.O)
13	- Over Run	Input	Lower limit switch input (N.C)
14	+ Over Run	Input	Upper limit switch input (N.C)
15	Emergency Stop	Input	Emergency stop limit switch input (N.C)
16	In Com	Power	Common of external power supply (+24V)