

2.3.2 JP4 Interface Circuit Examples

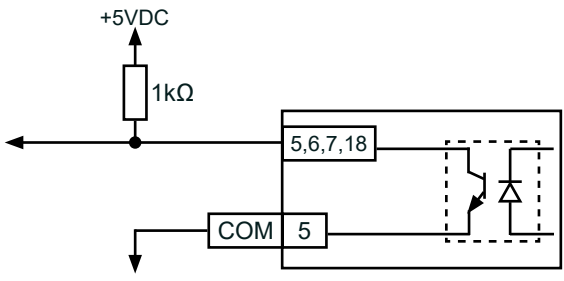
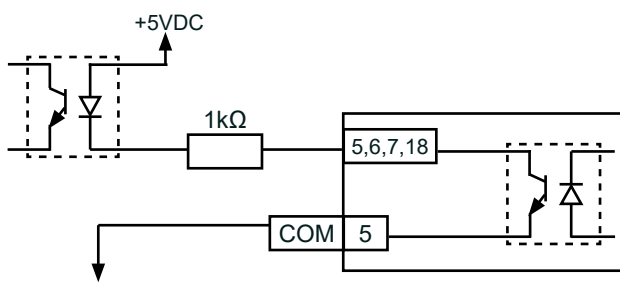
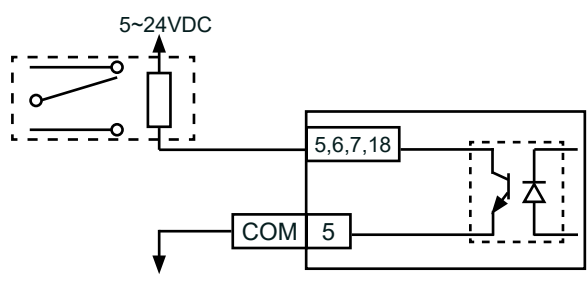
General Input Circuit

Interface Type	Applicable Signals	Specification
A	[JP4-2] ABS_H [JP4-3] SHOLD [JP4-4] +14VIN [JP4-14] DIN4 [JP4-15] ENA [JP4-16] +24VIN	- Use external +14VDC or +24VDC power supply - Can also use internal +14VDC power supply JP4-17 - Max 30VDC input, 10mA - Do not use same +24VDC power supply as holding brake

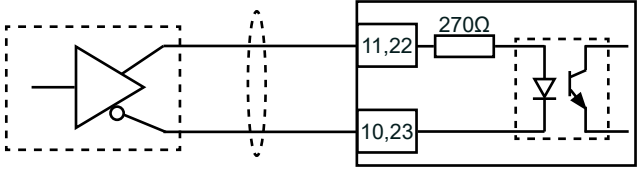
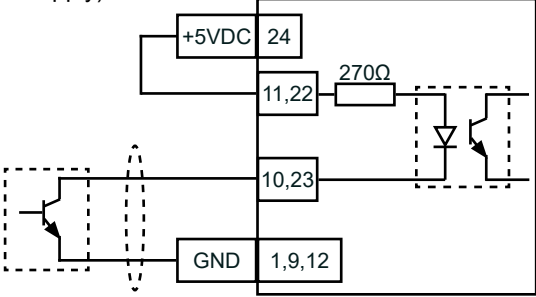
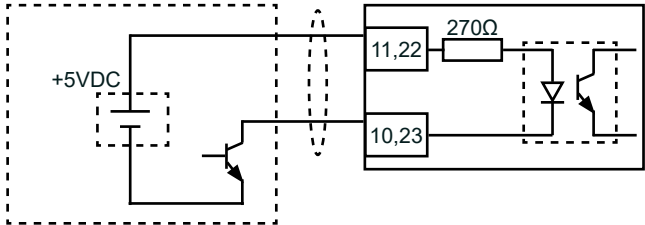
Circuit Example (Sink Circuit)	Notes
<p>Open Collector</p>	- NPN Transistor
<p>Relay/Switch</p>	

Circuit Example (Source Circuit)	Notes											
<p>Open Collector</p> <p>Example logic using +24VDC power supply:</p> <table border="1"> <thead> <tr> <th>Power Supply</th> <th>PNP Transistor</th> <th>Voltage Level</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td rowspan="2">+24VDC</td> <td>OFF</td> <td>0V</td> <td>Low</td> </tr> <tr> <td>ON</td> <td>24V</td> <td>High</td> </tr> </tbody> </table>	Power Supply	PNP Transistor	Voltage Level	Signal	+24VDC	OFF	0V	Low	ON	24V	High	- PNP Transistor
Power Supply	PNP Transistor	Voltage Level	Signal									
+24VDC	OFF	0V	Low									
	ON	24V	High									

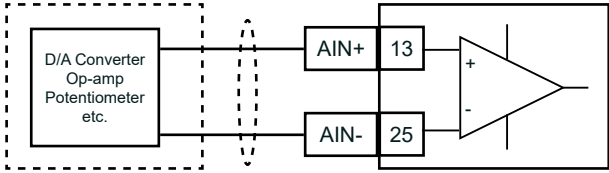
General Output Circuit

Interface Type	Applicable Signals	Specification
B	[JP4-5] COM [JP4-6] ONPOS [JP4-7] SRDY [JP4-18] ALM	- Max 30VDC, 50mA - Recommended +24VDC or +5VDC
Circuit Example		Notes
Collector		
Photocoupler		
Relay		

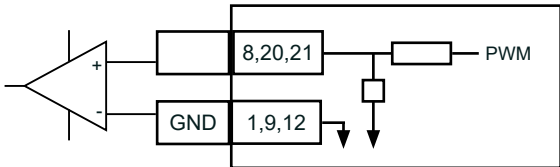
Position Reference Pulse Input Circuit

Interface Type	Applicable Signals	Specification
C	[JP4-10] DIR- [JP4-11] PUL+ [JP4-22] DIR+ [JP4-23] PUL-	- Voltage: +5VDC \pm %10 (Contact DMM if higher level such as 12/24VDC is required) - Max pulse frequency: 500kHz - Minimum pulse width: 800us
Circuit Example		Notes
Line Driver 		- Twisted pair cable with shield grounded on receiver side.
Open Collector (DYN4 Internal Power Supply) 		- Twisted pair cable with shield grounded on receiver side.
Open Collector (External Power Supply) 		- Power supply provided by host controller or external source. - Twisted pair cable with shield grounded on receiver side.

■ Analog Input Circuit

Interface Type	Applicable Signals	Specification
D	[JP4-13] AIN+ [JP4-25] AIN-	- Max $\pm 12\text{VDC}$ - Max 0.1mA
Circuit Example		Notes
		

■ Analog Output Circuit

Interface Type	Applicable Signals	Specification
E	[JP4-8] MO_POS [JP4-20] MO_ABS [JP4-21] MO_IC	- $0\sim 3.3\text{VDC}$ output - Max 0.33mA
Circuit Example		Notes
		

2.3.3 JP4 Consolidated Interface Circuit

