

Position interface unit

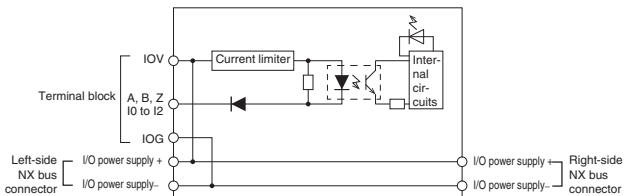
Incremental encoder input unit

Item		Specifications					
Model		NX-EC0112	NX-EC0122	NX-EC0212	NX-EC0222	NX-EC0132	NX-EC0142
Name	Incremental encoder input unit						
Number of channels	1 channel			2 channels		1 channel	
Input signals	Counter: Phases A, B and Z External inputs: 3			Counter: Phases A, B and Z External inputs: None		Counter: Phases A, B and Z External inputs: 3	
Input form	Type	NPN type 500 kHz	PNP type 500 kHz	NPN type 500 kHz	PNP type 500 kHz	Line driver, 4 MHz	
	Specifications	Voltage	20.4 to 28.8 VDC (24 VDC +20%/–15%) ON voltage: 19.6 VDC min./3 mA min. OFF voltage: 4.0 VDC max./1 mA max.			EIA standard RS-422-A line driver levels Impedance: 120 Ω ±5% Level input voltage: V _{IT+} : 0.1 V min. V _{IT-} : 0.1 V min. Hysteresis voltage: V _{hys} (V _{IT+} - V _{IT-}): 60 mV	
		Current	4.2 mA (24 VDC)			Output voltage: 5 VDC ±5% Output current: 500 mA max.	
	5 V power supply for encoder	–			Phases A and B: Single-phase 4 MHz (phase differential pulse input × 4: 1 MHz), Phase Z: 1 MHz		
	Maximum response frequency	Phases A and B: Single-phase 500 kHz (phase difference pulse input × 4: 125 kHz), Phase Z: 125 kHz			Phases A and B: Single-phase 4 MHz (phase differential pulse input × 4: 1 MHz), Phase Z: 1 MHz		
Counting units	Pulses						
Pulse input method	Phase difference pulse (multiplication × 2/4), pulse + direction inputs or up and down pulse inputs						
Counter range	–2,147,483,648 to 2,147,483,647 pulses						
Counter functions	Type	Ring counter or linear counter					
	Controls	Gate control, counter reset and counter preset					
	Latch function	Two external input latches and one internal latch					
	Measurements	Pulse rate measurement and pulse period measurement					
External input specifications	Input voltage	20.4 to 28.8 VDC (24 VDC +20%/–15%)		–		20.4 to 28.8 VDC (24 VDC +20%/–15%)	
	Input current	4.6 mA (24 VDC)		–		3.5 mA (24 VDC)	
	ON voltage/ON current	15 VDC min./3 mA min.		–		15 VDC min./3 mA min.	
	OFF voltage/OFF current	4.0 VDC max./1 mA max.		–		5.0 VDC max./1 mA max.	
	ON/OFF response time	1 μs max./2 μs max.		–		1 μs max./1 μs max.	
	Internal I/O common	NPN	PNP	–		NPN	PNP
Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.						
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)						
Isolation method	Photocoupler isolation					Digital isolator	
Unit power consumption	0.85 W max.	0.95 W max.	0.85 W max.	0.95 W max.	0.95 W max.	1.05 W max.	
I/O power supply source	Supplied from the NX bus. 20.4 to 28.8 VDC (24 VDC +20%/–15%)						
Current consumption from I/O power supply	None					30 mA	
Current capacity of I/O power supply terminal	0.3 A max. per terminal for encoder supply section and 0.1 A max. per terminal for other sections			0.3 A max. per terminal		0.1 A max. per terminal	
I/O refreshing method	Free-run refreshing or synchronous I/O refreshing ^{*1}						
Terminal block type	Screwless push-in terminal 16 terminals (A + B)			Screwless push-in terminal 12 terminals (A + B)		Screwless push-in terminal 12 terminals x 2 [(A + B) x 2]	
Dimensions (W x H x D)	12 x 100 x 71			12 x 100 x 71		24 x 100 x 71	
Weight	70 g			70 g		130 g	
Failure detection	None						
Protection	None						

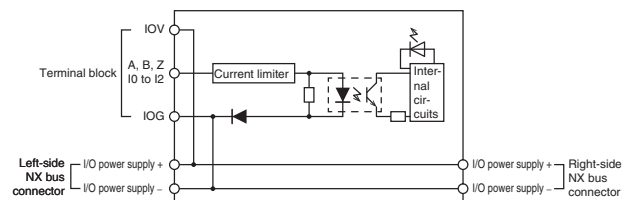
*1. The I/O refreshing method is automatically set according to the connected communication unit and CPU unit.

Circuit layout

NX-EC0112

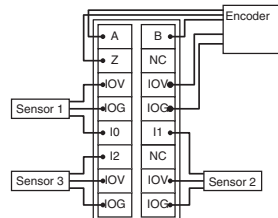


NX-EC0122

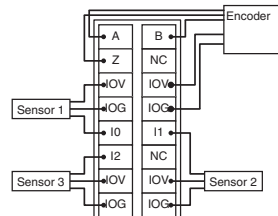


Terminal wiring

NX-EC0112

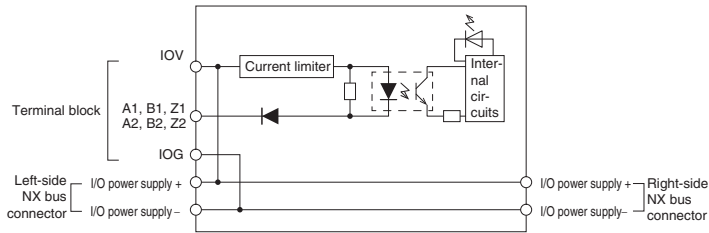


NX-EC0122



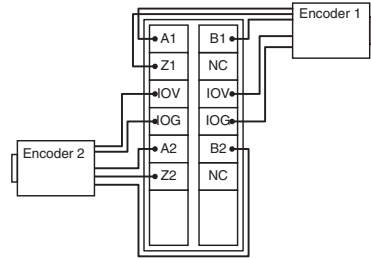
Circuit layout

NX-EC0212

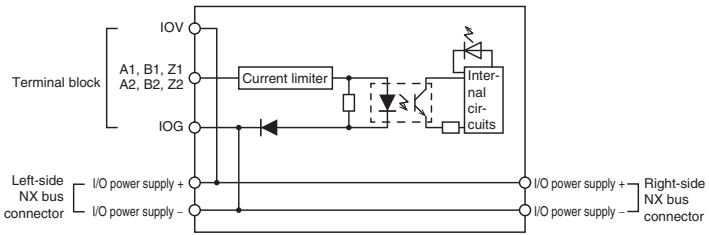


Terminal wiring

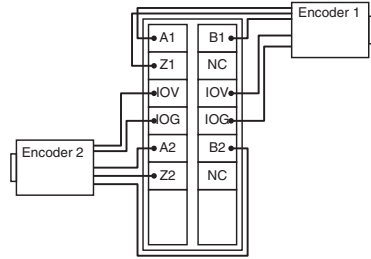
NX-EC0212



NX-EC0222

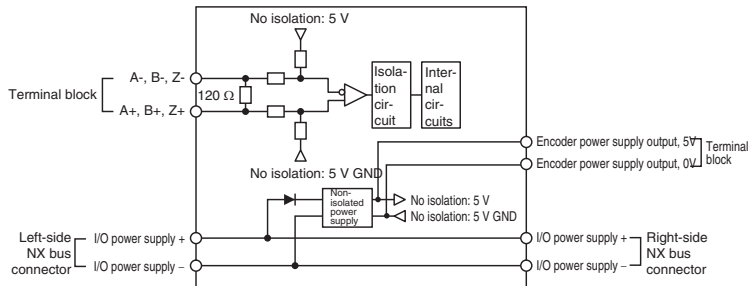


NX-EC0222

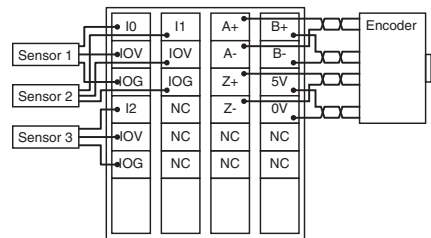


NX-EC0132/EC0142

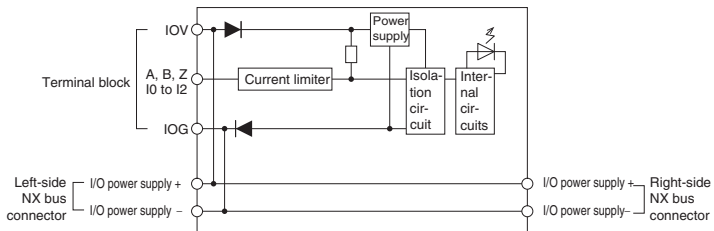
Encoder Input (NX-EC0132/EC0142)



NX-EC0132/EC0142



External Inputs (NX-EC0132)



External Inputs (NX-EC0142)

