

# Incremental Encoder Emulator

## Model JI-820

Jupiter Instruments

Ver 1.4

### Electrical Specifications

4/15/2020 Edition

#### General

**Signals** A, /A, B, /B, Z, /Z

**Pulses per Revolution (PPR)** Programmable: 1 to 1,00,000

**Counts per Revolution (CPR)** Programmable: 4 to 4,00,000

**Signal Phase Resolution** Selectable: 1, 5, 10, 45, or 90 degrees

Frequency Range, Cycle	Phase Resolution	Freq. Max.	Freq. Min.	Resolution
	90	5.00 MHz	10.0 Hz	50 nS
	45	2.50 MHz	5.00 Hz	100 nS
	10	555 KHz	1.11 Hz	450 nS
	5	277 KHz	0.55 Hz	900 nS
	1	55.5 KHz	0.11 Hz	4500 nS

#### Position Tracking:

Revolutions	$-2^{31}$ to $2^{31}$
Cycle	$-2^{31}$ to $2^{31}$
Phase	1 to 4

**Operational Modes** Free Run, Single-Step, Pulse Move

#### Index Signal (Z)

Position	Programmable: +/- 1 cycle span (max)
Polarity	Selectable: Positive or Negative Pulse

#### Output

Type	Selectable: RS-422 Open-Drain Push-Pull Push-Pull Complementary
Voltage Source	Internal or External
Internal	
Voltage	Adjustable 5.0V to 18.0V (100mV increments)
Current	Sink: 100 mA (max per signal) Source: 30 mA max per signal (90 mA combined)
External	
Voltage	5.0V to 30.0V
Current	Sink/Source: 100 mA (max per signal)
Short-Circuit Protection	Internal and External
Output Control	Enable/Disable Output

## Electrical Specifications (continued)

<b>Connector:</b>	
Type	Standard 9-Pin, D-sub, Female
Pin-outs	Pin 1 = External Voltage (Input) Pin 2 = Z Pin 3 = A Pin 4 = B Pin 5 = GND Pin 6 = GND Pin 7 = /Z Pin 8 = /A Pin 9 = /B
<b>LEDs</b>	
Power	Power-On
Activity	Output Signal Activity
<b>PC Interface</b>	
Communication	USB 2.0 Full Speed
Connector	Standard type B socket
Power	USB supplied Current Draw: 270mA (Nominal) 690mA (Maximum @ max. signal load)

## Mechanical and Environmental Specifications

<b>Mechanical</b>	
Dimension	3.3" x 1.1" x 5.0" (WxHxL)
Weight	0.2lbs
Construction	Extruded Aluminum Enclosure
<b>Environmental</b>	
Operating Temp	0C to 45C
Storage Temp	-20C to 70C