

Incremental Encoder Emulator

Model JI-820

Jupiter Instruments

Ver 0.8

Electrical Specifications

Preliminary

10/9/2017 Edition

General

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

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

Cycles per Revolution (CPR) Programmable: 1 to 1,00,000

Pulses per Revolution (PPR) Programmable: 4 to 4,000,000 (4 pulse increments)

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	0.55 MHz	1.11 Hz	450 nS
	5	0.27 MHz	0.55 Hz	900 nS
	1	0.05 MHz	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, Move Pulse Count

Index Signal (Z)

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

Output

Type	RS-422, Open Drain, Push-Pull, Push-Pull Complementary
Voltage Source	Internal or External

Internal

Voltage	Adjustable 5.0V to 28.0V (100mV increments)
Current	Sink: 100 mA (max per signal) Source: 30 mA max per signal (90 mA combined)

External

Voltage	4.5V to 30.0V
Current	Sink/Source: 100 mA (max per signal)

Connector:	
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
LED	
Power	Power-On
Activity	Output Signal Activity
PC Interface	
Communication	USB 2.0 Full Speed
Connector	Standard type B socket
Power	5V @ 270mA (Nominal max), USB supplied 5V @ 690mA (Absolute max)

Mechanical and Environmental Specifications

Mechanical	
Dimension	3.3" x 1.1" x 5.0" (WxHxL)
Weight	0.2lbs
Construction	Extruded Aluminum Enclosure
Environmental	
Operating Temperature	0C to 50C
Storage Temperature	-20C to 70C