

FEATURES

- Miniature Size
- 100 to 1000 Cycles Per Revolution (CPR)
- 400 to 1,440 Pulses Per Revolution (PPR)
- Tracks 0 to 30,000 Cycles Per Second
- Off-Axis Mounting Tolerance of 0.010"
- 2-Channel Quadrature TTL Squarewave Outputs
- Operating Temperature of -10° to +85° C
- Powered From a Single +5VDC Power Supply
- RoHS Compliant and REACH Certified



DESCRIPTION

Our Single-Ended Miniature Encoders without an Index channel are transmissive optical encoder modules. These modules are designed to detect rotary position with a codewheel when added to the end of an Anaheim Automation dual shaft 08Y series motor. These single-ended miniature encoders consist of a lensed LED source and a monolithic detector IC enclosed in a small polymer package. These modules use phased array detector technology to provide superior performance and greater tolerances over traditional aperture mask type encoders. They provide digital quadrature outputs on all resolutions and are capable of sinking or sourcing 8mA each. These encoders are powered from a single +5VDC power supply.

BUILD A PART NUMBER

To order an encoder, add a “ - ”, the CPR number, and an SN8 on the end of any Anaheim Automation dual shaft 08Y series motor.

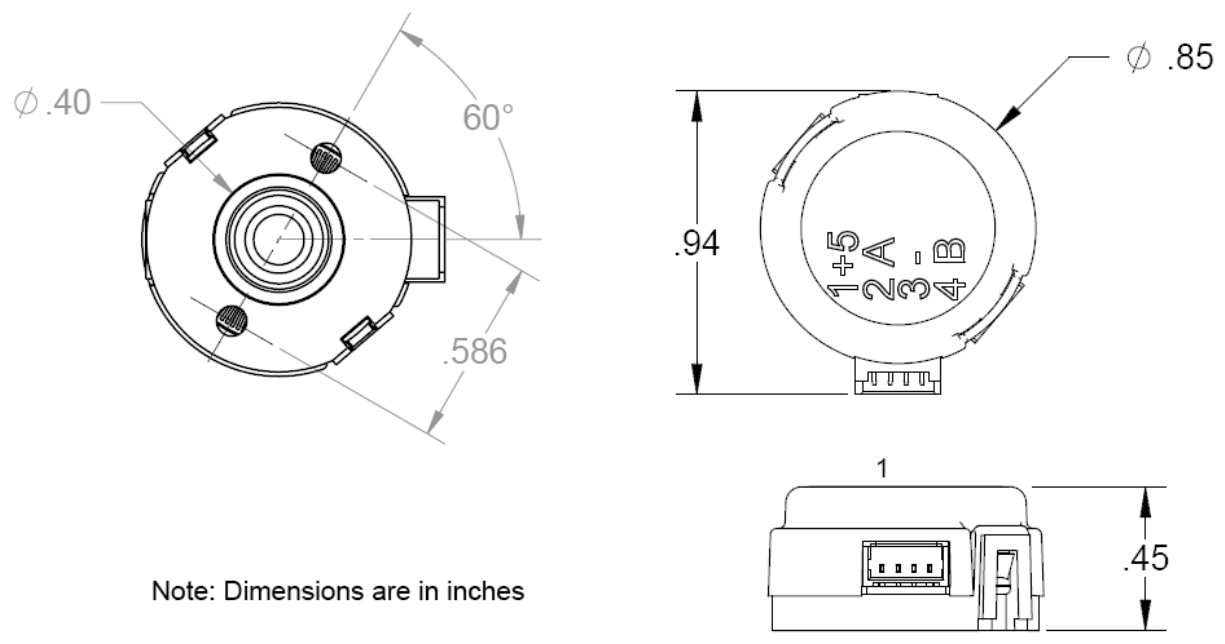
# 08Y102D-LW4-100SN8

CPR	
100	256
108	300
120	360
125	400
128	500
200	512
250	1000

Example: The part number for a 100 CPR encoder mounted on an 08Y102D-LW4 stepper motor would be 08Y102D-LW4-100SN8.

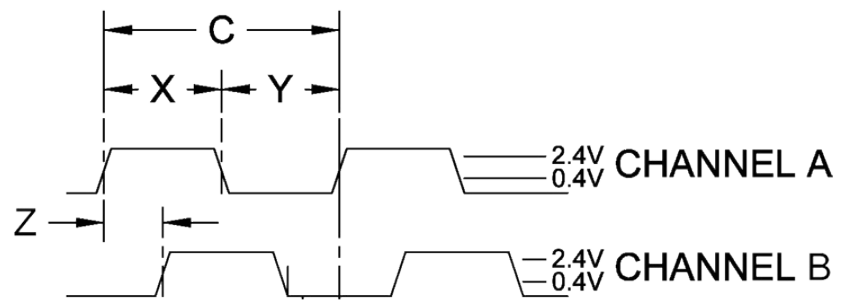
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DIMENSIONS



PIN/TIMING DIAGRAMS

**SINGLE-END ENCODER TIMING DIAGRAMS**



**ROTATION:**  
**CW - B LEADS A, CCW - A LEADS B**

**SINGLE-ENDED ENCODER PINOUT**  
 TOP OF ENCODER FACING PLUG

Pin #	Function	ENC-CBL-CA3285-1 ENC-CBL-CA3286-1
1	+5VDC	Orange or Red
2	Channel A	Blue or Green
3	Ground	Brown or Black
4	Channel B	Yellow

1	+5VDC
2	Channel A
3	Ground
4	Channel B

Model #	Description	Parameter	Min	Typ	Max	Units
CPR(N):	The Number of Cycles Per Revolution	Supply Current (No Load)	-	21	27	mA
One Shaft Rotation:	360 mechanical degrees, N cycles	High Level Output Voltage* ( $I_{OL} = 6 \text{ mA}$ )	2.4	-	-	Volts
One Electrical Degree ( $^{\circ}e$ ):	1/360th of one cycle	Low Level Output Voltage ( $I_{OH} = -1 \text{ mA}$ )	-	-	0.4	Volts
One Cycle (C):	360 electrical degrees ( $^{\circ}e$ ). Each cycle can be decoded into 1 or 4 codes, referred to as X1 or X4 resolution multiplication	Rise Time (CL = 25 pF, RL = 2.7 k $\Omega$ )	-	500	-	ns
Symmetry:	A measure of the relationship between (X) and (Y) in electrical degrees, nominally 180 $^{\circ}e$	Fall Time	-	100	-	ns
Quadrature (Z):	The phase lag or lead between channels A and B in electrical degrees, nominally 90 $^{\circ}e$	* Unloaded high level output voltage is 4.80V typically, 4.2V minimum.				

Parameter	Max	Units
Vibration (5 to 2kHz)	20	g
Shaft Axial Play	+/- 0.02	in.
Off-Axis Mounting Tolerance	0.010	in.
Acceleration	250,000	rad/sec <sup>2</sup>

Parameter	Typ	Units
Symmetry, S	180 $\pm$ 16	$^{\circ}e$
Quadrature Delay, Q	90 $\pm$ 12	$^{\circ}e$

Recommended Operating Conditions	Min	Max	Units
Temperature	-40	100	$^{\circ}C$
Supply Voltage	4.5	5.5	Volts
Load Capacitance	-	100	pF
Count Frequency	-	100	kHz

## Cables:

The following cables are compatible with Anaheim Automation's miniature encoder adder series. Select a cable length from the table below:

Cable Part Number	Length
ENC-CBL-CA3285-1	1 ft.
ENC-CBL-CA3286-6	6 ft.

*NOTE: For pricing and other information on cables and centering tools, please visit Accessories on our website.*