

Single-Ended Miniature Encoders Without Index



FEATURES

- **Miniature Size**
- **100 to 360 Cycles per Revolution (CPR)**
- **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 +5 VDC 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. Also, they are RoHS compliant and REACH certified.

BUILD A PART NUMBER

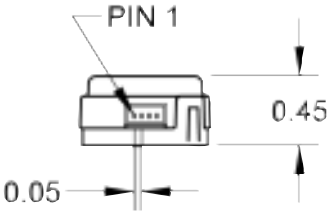
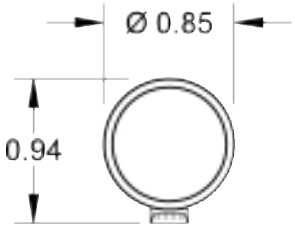
Example: To order an encoder, add a “-”, the CPR number and a SN8 on the end of any Anaheim Automation dual shaft 08Y Series motor. For example, to place a 100 CPR encoder on a 08Y102D-LW4, the part number would be 08Y102D-LW4-100SN8.

08Y102D-LW4-100SN8

Table 1										
Parameter	100SN8	108SN8	120SN8	125SN8	128SN8	200SN8	250SN8	256SN8	300SN8	360SN8
Fits NEMA Size	08	08	08	08	08	08	08	08	08	08
Cycles Per Revolution	100	108	120	125	128	200	250	256	300	360

L010389

DIMENSIONS



Note: All dimensions are in inches.

SINGLE-END ENCODER PINOUT

TOP OF ENCODER FACING PLUG

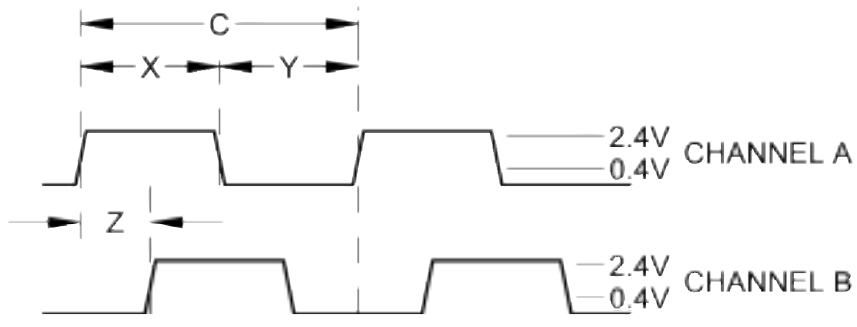


Pin #	Function	ENC-CBL-CA3285-1 ENC-CBL-CA3286-1
1	+5 VDC	Orange or Red
2	Channel A	Blue or Green
3	Ground	Brown or Black
4	Channel B	Yellow

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 ²

ELECTRICAL SPECIFICATIONS

SINGLE-END ENCODER TIMING DIAGRAMS



Rotation:
 CW - B leads A
 CCW - A Leads B

Model #	Description
CPR(N):	The Number of Cycles Per Revolution
One Shaft Rotation:	360 mechanical degrees, N cycles
One Electrical Degree (°e):	1/360th of one cycle
One Cycle (C):	360 electrical degrees (°e). Each cycle can be decoded into 1 or 4 codes, referred to as X1 or X4 resolution multiplication
Symmetry:	A measure of the relationship between (X) and (Y) in electrical degrees, nominally 180 °e
Quadrature (Z):	The phase lag or lead between channels A and B in electrical degrees, nominally 90°e

Parameter	Typ	Max	Units
Symmetry Error (Ch. A, Ch. B) - 8300-K	15, 25	55, 75	°e
Symmetry Error (Ch. A, Ch. B) - 8300-P, 8300-Q	16	75	°e
Quadrature Error - 8300-K	12	60	°e
Quadrature Error - 8300-P, 8300-Q	10	60	°e

Parameter	Min	Typ	Max	Units
Detector Supply Current	-	2.2	5.0	mA
High Level Output Voltage*	2.4	-	-	Volts
Low Level Output Voltage	-	-	0.4	Volts
Rise Time	-	500	-	ns
Fall Time	-	100	-	ns

Recommended Operating Conditions	Min	Max	Units
Temperature	-40	100	°C
Supply Voltage	4.5	5.5	Volts
Load Capacitance	-	100	pF
Count Frequency	-	100	kHz

Cable Ordering Info	Length
ENC-CBL-CA3285-1	1 ft.
ENC-CBL-CA3286-6	6 ft.

* Unloaded high level output voltage is 4.80V typically, 4.2V minimum.