FEATURES

- Miniature Size
- Off-Axis Mounting Tolerance of 0.010"
- Tracks 0 to 30,000 Cycles Per Second
- Operating Temperature of -20° to +100°C
- 100 to 1000 Cycles Per Revolution (CPR)
- Power From a Single +5VDC Power Supply
- 2-Channel Quadrature TTL Squarewave Output
- RoHS Compliant and REACH Certified

DESCRIPTION

Our Miniature Differential 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 differential miniature encoders consist of a lensed LED source and a monolithic detector IC enclosed in a small polymer package and 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. This miniature differential encoder is ideal for applications with space limitations and require cable lengths of 10ft. or greater. These encoders are powered from a single +5VDC power supply.
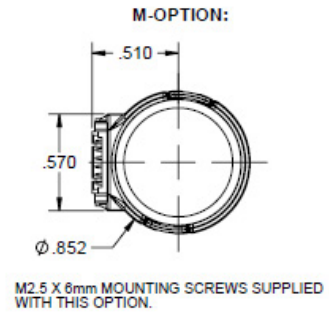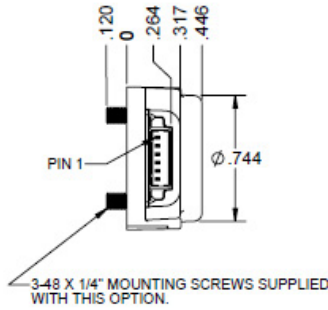
BUILD A PART NUMBER

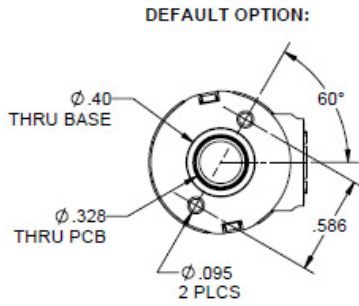**To order an encoder, add a " - ", the CPR number, and an DN8 on the end of any Anaheim Automation dual shaft 08Y series motor.**

08Y102D-LW4-100DN8

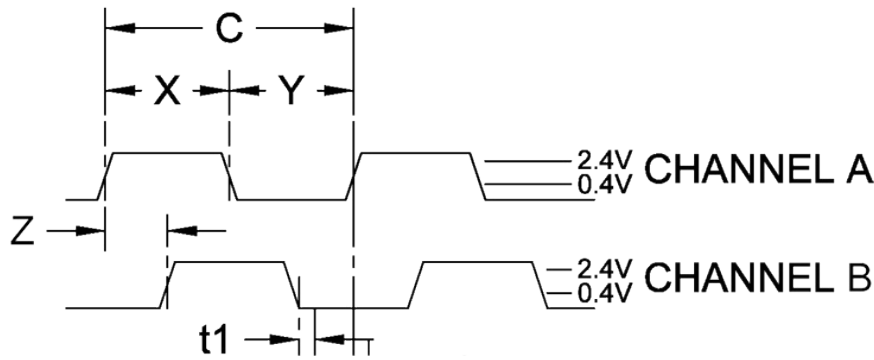| CPR	
100	256
108	300
120	360
125	400
128	500
200	512
250	1000

Example: The part number for a 100 CPR encoder mounted on an 08Y102D-LW4 stepper motor would be 08Y102D-LW4-100DN8.

L010889

DIMENSIONS

DEFAULT OPTION:

Ø .40
THRU BASE

60°

Ø .328
THRU PCB

Ø .095
2 PLCS

.586

.120
0
.264
.317
.446

PIN 1

Ø .744

3-48 X 1/4" MOUNTING SCREWS SUPPLIED
WITH THIS OPTION.

M-OPTION:

.510

.570

Ø .852

M2.5 X 6mm MOUNTING SCREWS SUPPLIED
WITH THIS OPTION.

PIN/TIMING DIAGRAMS

DIFFERENTIAL ENCODER TIMING DIAGRAMS

C
X Y
2.4V
0.4V CHANNEL A
Z
2.4V
0.4V CHANNEL B
t1

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

DIFFERENTIAL ENCODER PINOUT
TOP OF ENCODER FACING PLUG

Pin #	Function
1	GND
2	A Channel
3	A- Channel
4	+5VDC
5	B Channel
6	B- Channel

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	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

Recommended Operating Conditions	Min	Max	Units
Temperature	-40	100	°C
Max Relative Humidity	-	90	%
Load Capacitance	-	100	pF
Count Frequency	-	100	kHz

Parameter	Min	Typ	Max	Units
Supply Voltage	4.5	5.0	5.5	Volts
Supply Current (No Load)	-	23	29	mA
Differential Output Voltage (RL = 100 ohm)	2.4	-	-	Volts
Differential Output Rise/Fall Time	-	-	20	ns

Parameter	Typ	Units
Symmetry, S	180 ± 16	°e
Quadrature Delay, Q	90 ± 12	°e

Cables:

The following cables are compatible with Anaheim Automation's DN8 series encoder. Select a cable length from the table below:

Cable Part Number	Length
ENC-CBL-CA-MIC6-SH-NC-1	1 ft.
ENC-CBL-CA-MIC6-SH-NC-5	5 ft.
ENC-CBL-CA-MIC6-SH-NC-10	10 ft.
ENC-CBL-CA-MIC6-SH-NC-20	20 ft.

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