

Miniature Differential Encoder Without Index

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)
- 400 to 1,440 Pulses Per Revolution (PPR)
- 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

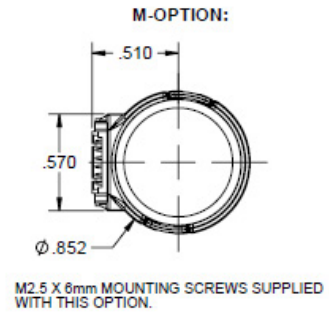
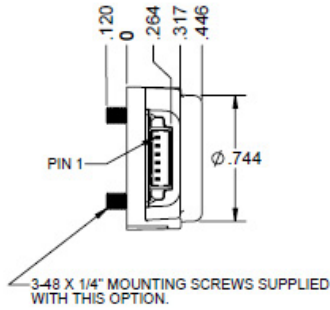
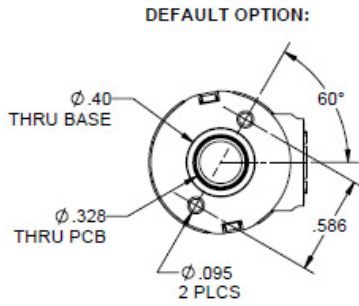
To order an encoder, add a " - ", the CPR number, and an DN8 on the end of any Anaheim Automation dual shaft 08Y series motor.

08Y102D-LW4-100DN8

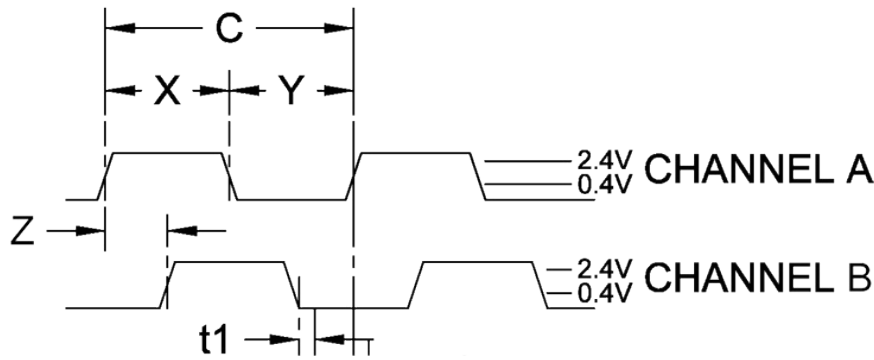
CPR	
100	256
108	300
120	360
125	400
128	500
200	512
250	1000

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

L010889



DIFFERENTIAL ENCODER TIMING DIAGRAMS



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	Recommended Operating Conditions	Min	Max	Units
Vibration (5 to 2kHz)	20	g	Temperature	-40	100	°C
Shaft Axial Play	+/- 0.02	in.	Max Relative Humidity	-	90	%
Off-Axis Mounting Tolerance	0.010	in.	Load Capacitance	-	100	pF
Acceleration	250,000	rad/sec ²	Count Frequency	-	100	kHz

Parameter	Min	Typ	Max	Units	Parameter	Typ	Units
Supply Voltage	4.5	5.0	5.5	Volts	Symmetry, S	180 ± 16	°e
Supply Current (No Load)	-	23	29	mA	Quadrature Delay, Q	90 ± 12	°e
Differential Output Voltage (RL = 100 ohm)	2.4	-	-	Volts			
Differential Output Rise/Fall Time	-	-	20	ns			

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.