

CP-200 Series Housed Modular Optical Encoders

Digital incremental or sine/cosine format

Allied Motion's CP-200 series modular optical encoders are cost effective, easy to mount encoders with high data rate capabilities. The CP-200 model is capable of providing analog outputs, while the CP-250 and CP-270 provide digital incremental encoding formats.

Features & Benefits

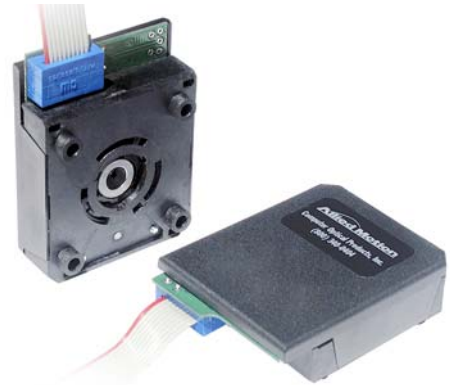
- Compact mechanical dimensions (1.78" x 0.75" x 2.30") for easier system integrations
- Simple mounting design
- Hollow shaft is standard for ideal mounting configuration onto shaft
- Digital Incremental and sine/cosine versions

Options

- High range of line counts: up to 2048 incremental
- Large range of shaft diameters: up to 10 mm
- Through hole version for rear shaft access
- Custom cable and/or connector
- RoHS compliant

Mounting Instructions

1. Open cover by gently wedging the cover off using a small screwdriver in the slot opposite the wire exit. Leave PCB in place.
2. Loosely mount the encoder to a motor with for mounting screws through the PCB.
3. Unlock the locking ring by turning counter-clockwise (view from encoder end); access ring from the side.
4. Gently press hub down into the locking mechanism, and lock the hub by turning the locking ring clockwise.
5. Tighten set screw.
6. Tighten the four mounting screws.
7. Unlock the locking ring by turning until it stops.
8. Snap on cover.



- Robust hollow-shaft modular optical encoder
- Up to 2048 counts/revolution incremental
- Digital Incremental or sine/cosine encoding formats

SPECIFICATIONS

Model	CP-200	CP-250	CP-270
Type	Incremental, sine/cosine	Incremental, digital	Incremental, digital with voltage regulator
Format	A quad B, index	A quad B, index inverses	
Resolution (in cycles/ rev) 1 cycle/rev = 4 counts/rev	100, 128, 200, 240, 256, 300, 360, 400, 500, 512, 1000, 1024	100, 128, 200, 256, 300, 360, 400, 500, 512, 600, 720, 800, 1000, 1024, 2048	
Frequency Response	20 kHz	150 kHz	150 kHz
Accuracy	±12 arc sec (typ.)		
Power Supply Voltage	±18 VDC max	5 VDC (50 mA max)	4.75 to 30 VDC (50 mA max)
Output		TTL	Linedriver

Optical Encoder

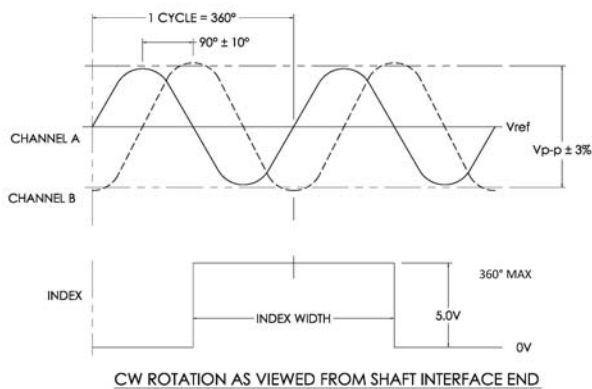
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SPECIFICATIONS

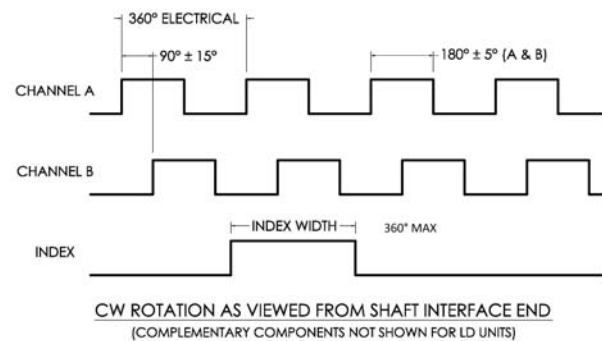
Item	Value
Maximum Bore Diameter	0.394 in (10 mm)
Inertia	0.2×10^{-4} oz-in sec ² (0.1×10^{-6} kgm ²)
Operating Temperature	-30 °C to +85 °C
Storage Temperature	-40 °C to +95 °C
Operating Relative Humidity	90% @ 35 °C
Storage Relative Humidity	80% @ 45 °C
Protection Rating	IP40/IP41
Housing Material	Ryton R4
Weight	1.06 oz (30 g)

OUTPUT WAVEFORMS

CP-200



CP-250, CP-270

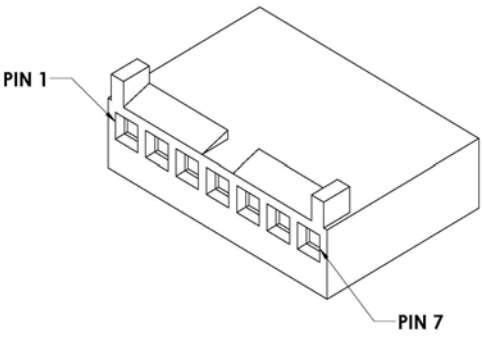


Note: All waveforms shown are for CW rotation viewed from encoder shaft end.

Tolerances depend on customer installation.

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CONNECTIONS AND PINOUTS

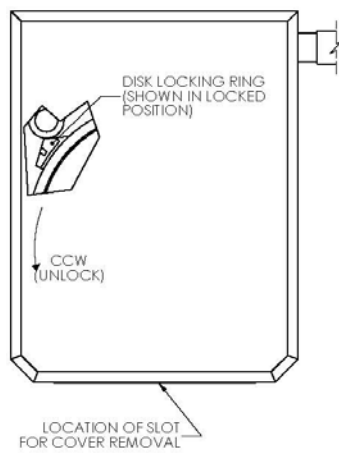
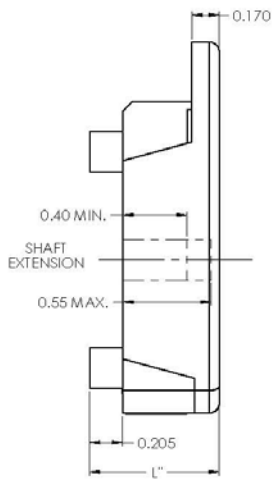
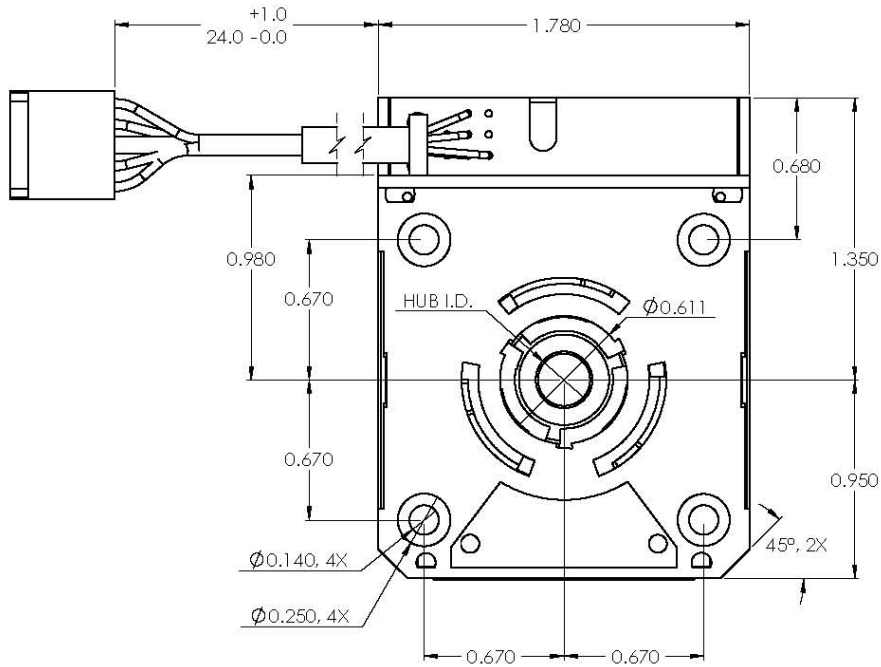
Model	CP-200/250						CP-270	
Type	Side Exit		Rear exit		Cable		Rear exit	
Connector 	TE CONNECTIVITY 103324-3		SAMTEC TSW-105-25-S-D-PA		MOLEX 22-01-3077		SAMTEC TSW-105-25-S-D-RA	
	Pin	Function	Pin	Function	Pin	Function	Pin	Function
	1	Channel A	1	Ground	1	N/C	1	+ Vin
	2	+ Vin	2	+ Vin	2	Index	2	Channel A
	3	Ground	3	Index	3	Channel B	3	Channel A -
	4	Channel B	4	N/C	4	Channel A	4	Channel B -
	5	Index	5	Channel A	5	Ground	5	Channel B
	6	N/C	6	Channel B	6	N/C	6	Index
			7	N/C	7	+ Vin	7	Index-
			8	N/C			8	Ground
		9	N/C			9	N/C	
		10	N/C			10	N/C	



Optical Encoder

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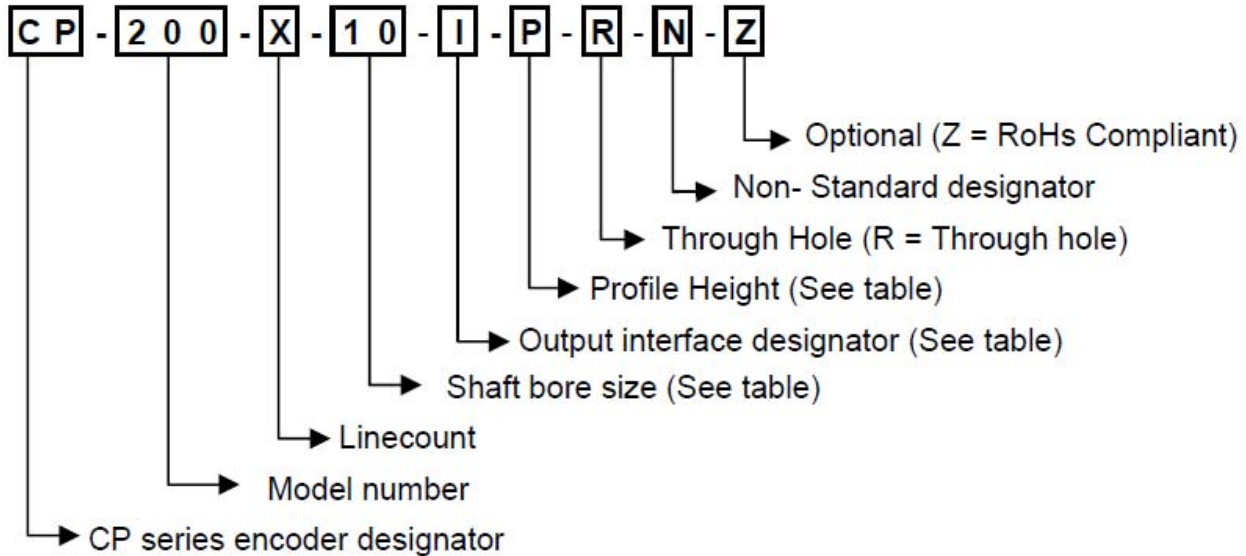
DIMENSIONS



	Std
Height, L	0.75 in (19.05 mm)

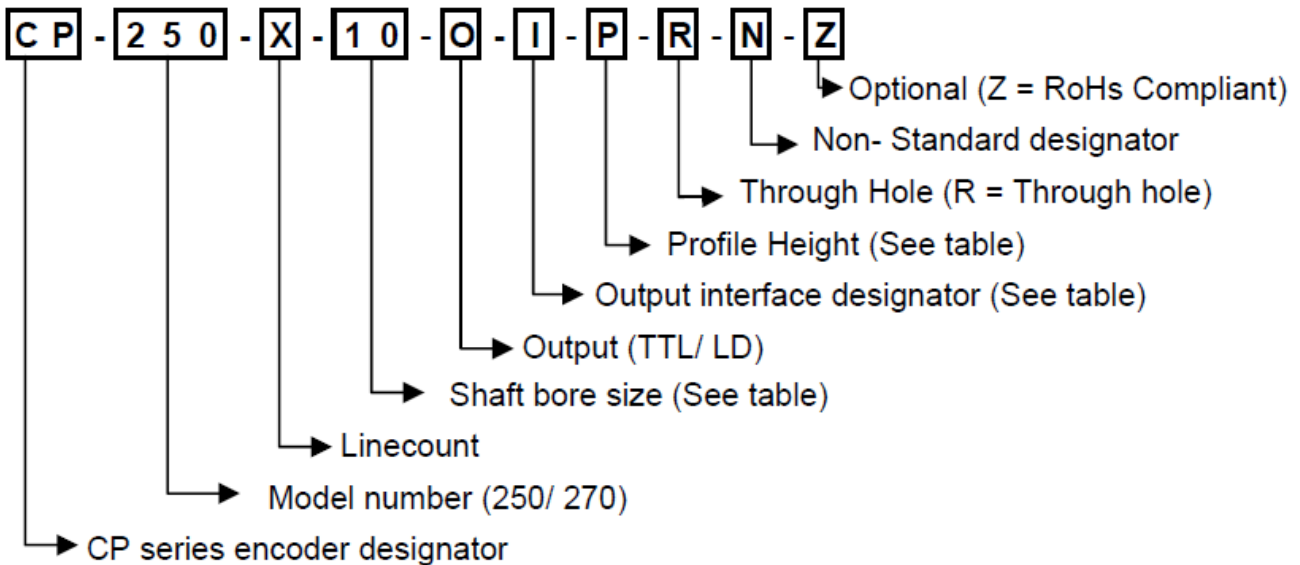
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MODEL NUMBERING-INCREMENTAL ENCODERS



Output Interface	Shaft Bore Size	Profile height
SE = side exit connector	Enter bore size as inch fraction or whole number for metric (mm):	L (low) = 0.62"
RE = rear exit connector	Inch: 3/32, 3/16, 1/4, 5/16, 3/8	S (std) = 0.75"
C = side exit cable	Metric: 4, 5, 6, 8 10 (mm)	H (high) = 0.805"

MODEL NUMBERING-DIGITAL INCREMENTAL ENCODERS



Output Interface	Shaft Bore Size	Profile height
SE = side exit connector	Enter bore size as inch fraction or whole number for metric (mm):	L (low) = 0.62"
RE = rear exit connector	Inch: 3/32, 3/16, 1/4, 5/16, 3/8	S (std) = 0.75"
C = side exit cable	Metric: 4, 5, 6, 8 10 (mm)	H (high) = 0.805"

Customer Assistance – Allied Motion “Speaks Your Language”



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- Standard product selection
- Product customization and options guidance
- Specification development for special-designed products
- Price quotations
- Ordering and order status information
- Logistics assistance

For assistance with all of your motion applications, call or email us using the contact information below.

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