

Model 716

Now up to 10,000 CPR!



Features

- The Original Industry-Standard Cube
- Five Versatile Housing Styles
- Thousands of Configurations
- New Resolutions Available to 10,000!

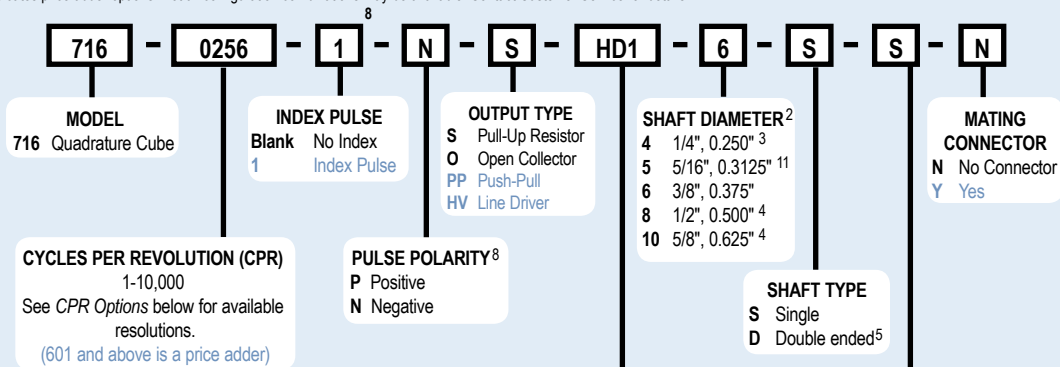
The Model 716 Accu-Coder™ is ideally suited for applications requiring a quadrature output. Designed for compatibility with most programmable controllers, electronic counters, motion controllers, and motor drives, it is ideally suited for industrial applications where it is important that the direction of rotation be known. Increasing critical performance specifications for the most popular resolutions and features advanced Opto-ASIC circuitry, a single chip design that eliminates many board level components. This increases the reliability of an already dependable and durable encoder. With new options continually being added, we just keep getting better, and better!

Common Applications

Feedback for counters, PLC's & Motors, Cut To Length, Labeling, Measuring For Packaging, Filling & Materials Handling Machines, Wire Winding, Film Extrusion

Model 716 Ordering Guide

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.



For specification assistance call Customer Service at 1-800-366-5412

Model 716 CPR Options

0001 thru 0189*	0193	0198	0200	0205
0210	0240	0250	0256	0276
0298	0300	0305	0308	0315
0333	0336	0350	0360	0400
0480	0500	0512	0580	0597
0600	0700	0720	0800	0840
0960	1000	1024	1200	1250
1270	1500	1800*	2000	2048
2500	3000	3600*	4096	5000
6000	7200*	8192	10,000	

*Contact Customer Service For Availability

Contact Customer Service for other disk resolutions; not all disk resolutions available with all output types

HOUSING TYPE	
S	2.25" Standard Housing
S1	2.25" Standard Housing with IP50 Felt Shaft Seal ¹
IND12	Industrial Housing with IP65 Shaft Seal
HD1	3" x 3" x 6" Heavy Duty Housing
HD3	Heavy Duty Housing with Conduit Connector & Terminal Strip
HD5	Heavy Duty Housing with 10 mm Outer Bearing
HD10	Heavy Duty Housing with Ultra Heavy Duty Bearings, 0.625" or 0.500" Shaft
HD12	Heavy Duty Housing with IP65 Outer Shaft Seal
HD14	Heavy Duty Housing with IP65 Shaft Seal and with Conduit Connector & Terminal Strip
5PY	Standard Cube With 5PY Adaptor ¹¹
EX	Explosion-proof Housing

CONNECTOR TYPE ⁹	
S	Standard 6-pin MS Style
Y	7-pin MS Style
X	10-pin MS Style
J	5-pin M12 (12 mm) ⁵
K	8-pin M12 (12 mm) ⁵
G	Gland Nut - 18" Cable ⁶
T	Solder or Screw Terminal ⁷
B	Solder Terminal with Conduit Box

NOTES:

- 1 Available with 0.250" shaft only.
- 2 Contact Customer Service for custom shaft lengths and diameters.
- 3 Standard housing only.
- 4 HD10 housing only.
- 5 Not available for HD or EX housings.
- 6 For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: G/6 = 6 feet of cable. For CPR > 2500. Standard cable length only.
- 7 Screw terminals available for HD and EX housings. Solder terminals available for S and S1 housings.
- 8 Complete only if Index Pulse option is selected.
- 9 For Mating Connectors, Cables, and Cordsets see www.encoder.com
- 10 Only available with 5/16" (0.3125") shaft.
- 11 Standard or 5PY housing only.

Model 716

Model 716 Specifications Common to All Cube Housing Styles

Electrical

Input Voltage.....4.75 to 28 VDC max for temperatures up to 85° C
4.75 to 24 VDC for temperatures between 85° C and 100° C.

Input Current......80 mA maximum with no output load

Input Ripple100 mV peak-to-peak at 0 to 100 kHz

Output FormatIncremental- Square wave with single channel

Output TypesOpen Collector- 250 mA max per channel
Pull-Up- 250 mA max per channel
Push-Pull- 20 mA max per channel
Line Driver- 20 mA max per channel (Meets RS 422 at 5 VDC supply)

Max Frequency.....1 to 2500 CPR 125 kHz, 2501 to 5000 CPR 250 kHz, 5001 to 10,000 CPR 500 kHz
Standard Cube- 0 to 20 kHz

IndexStandard Cube- Once per revolution, 180° electrical minimum non-gated

Symmetry180° (±18°) electrical
Quad Phasing.....90° (±22.5°) electrical

Rise Time.....Less than 1 microsecond

Accuracy.....Within 0.05° mechanical from one cycle to any other cycle, or 3 arc minutes

Mechanical

Max Speed.....6000 RPM. Higher shaft speeds achievable, contact Customer Service.

Shaft Material.....303 stainless steel

Housing.....Black non-corrosive finished 6063-T6 aluminum

BearingsPrecision ABEC Ball Bearings

Electrical Conn.....Refer to ordering guide notes

Environmental

Operating Temp.....0° to 85° C or 0° to 100° C at 5 to 24 VDC

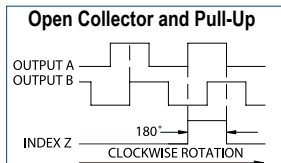
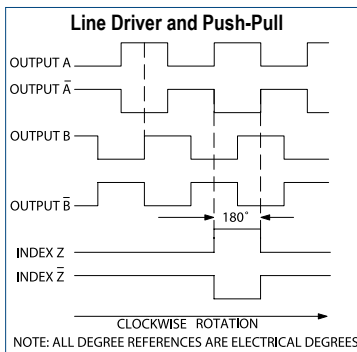
Storage Temp.....-25° to +85° C

Humidity.....98% RH non-condensing

Vibration.....10 g @ 58 to 500 Hz

Shock.....50 g @ 11 ms duration

Waveform Diagrams



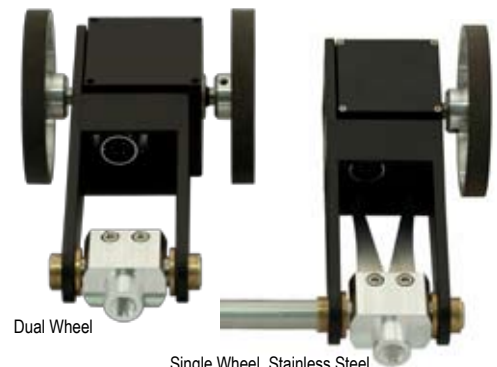
Wiring Table

Function	Gland Cable Wire Color	5-pin M12	8-pin M12	10-pin MS	7-pin MS HV	7-pin MS O, S PP	6-pin MS HV No Index	6-pin MS O, S PP	Term. Block O, S No Index	Term. Block O, S PP
Com	Black	3	7	F	F	F	A	A, F	1	1, 6
+VDC	Red	1	2	D	D	D	B	B	2	2
A	White	4	1	A	A	A	C	D	3	4
A'	Brown	---	3	H	C	---	D	---	4	---
B	Blue	2	4	B	B	B	E	E	5	5
B'	Violet	---	5	I	E	---	F	---	6	---
Z	Orange	5	6	C	---	C	---	C	---	3
Z'	Yellow	---	8	J	---	---	---	---	---	---
Case	Green ¹	---	---	G	G	G	---	---	---	---
Shield	Bare	---	---	---	---	---	---	---	---	---

¹E-Cube Only

Cube Pivot Bracket

- 176430-01 Single Pivot Mounting Bracket
- 176431-01 Double Pivot Mounting Bracket
- 176430-02 Spring Loaded Single Pivot Mounting Bracket
- 176431-02 Spring Loaded Double Pivot Mounting Bracket



Standard Cube Housing (S, S1)

Standard Cube Housing (S, S1) Specifications

Mechanical

Shaft Size0.250" or 0.375"

Shaft TypeSingle or double-ended (specify choice)

Radial Loading15 lb maximum (0.250" diameter shaft)
40 lb maximum (0.375" diameter shaft)

Axial Loading10 lb maximum (0.250" diameter shaft)
30 lb maximum (0.375" diameter shaft)

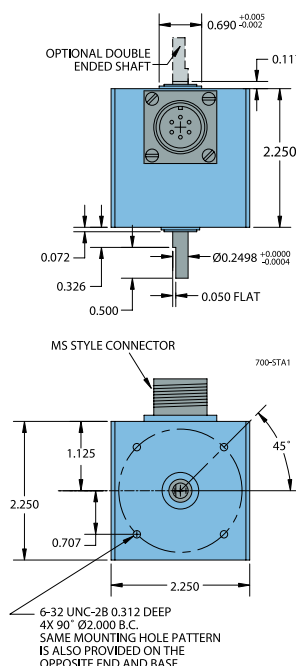
Starting Torque0.13 oz-in typical for 0.250" shaft
0.38 oz-in typical for 0.375" shaft

Moment of Inertia6.5 x 10⁻⁶ oz-in-sec²

Mounting.....Tapped mounting holes on three sides for base or face mounting

Weight.....10 oz for standard housing

Cube Housing With 1/4" Shaft (4)



Cube Housing With 3/8" Shaft (6)

