

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!

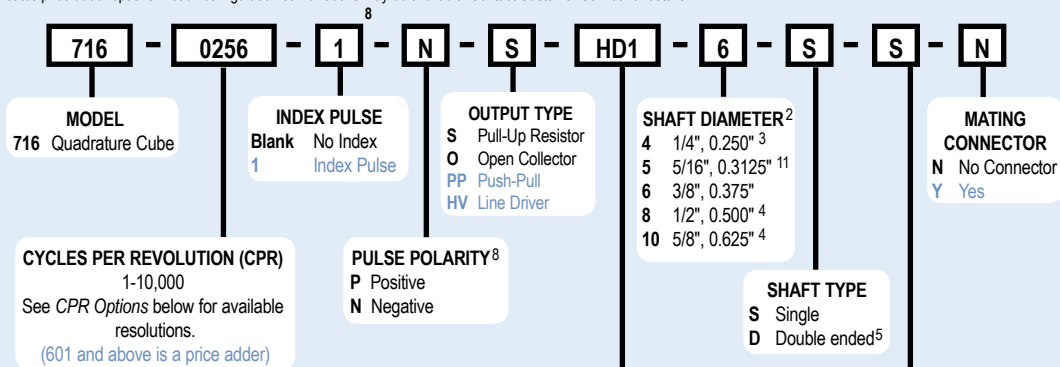
The Model 716 Accu-Coder™ is ideally suited for applications requiring a quadrature output. Designed for compatibility with most programmable controllers, electronic counters, motion controllers, and motor drives, it is ideally suited for industrial applications where it is important that the direction 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

HOUSING TYPE

- S 2.25" Standard Housing
- S1 2.25" Standard Housing with IP50 Felt Shaft Seal¹
- 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 Adaptor¹¹
- EX Explosion-proof Housing

CONNECTOR TYPE⁹

- 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" Cable⁶
- T Solder or Screw Terminal⁷
- 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 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

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 Ripple.....100 mV peak-to-peak at 0 to 100 kHz
Output Format.....Incremental- Square wave with single channel
Output Types.....Open 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
Index.....Standard Cube- Once per revolution,
180° electrical minimum non-gated

Symmetry.....180° (±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

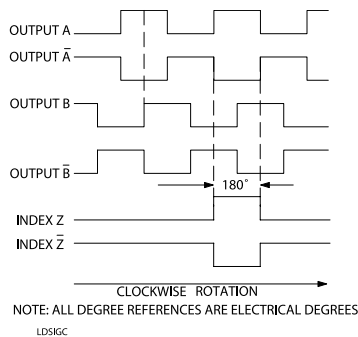
Max Speed.....6000 RPM. Higher shaft speeds achievable, contact Customer Service.
Shaft Material.....303 stainless steel
Housing.....Black non-corrosive finished 6063-T6 aluminum
Bearings.....Precision ABEC Ball Bearings
Electrical Conn.....Refer to ordering guide notes

Environmental

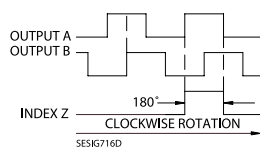
Operating Temp.....0° to 85° C or
0° to 100° C at 5 to 24 VDC
Storage Temp.....-25° to +85° C
Humidity.....98% RH non-condensing
Vibration.....10 g @ 58 to 500 Hz
Shock.....50 g @ 11 ms duration

Waveform Diagrams

Line Driver and Push-Pull



Open Collector and Pull-Up



Wiring Table

Function	Gland Cable Wire Color	5-pin M12	8-pin M12	10-pin MS	7-pin MS HV	6-pin MS O.S PP	6-pin MS HV No Index	6-pin MS O.S PP	Term. Block HV 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

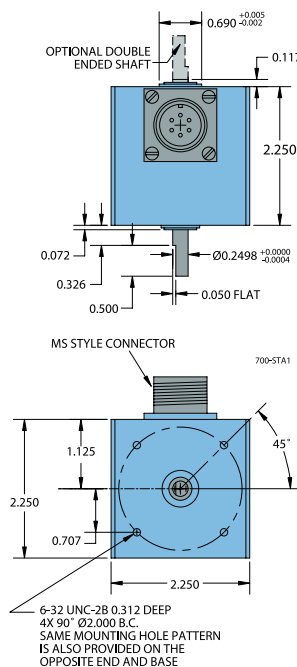
Standard Cube Housing (S, S1)

Standard Cube Housing (S, S1) Specifications

Mechanical

Shaft Size.....0.250" or 0.375"
Shaft Type.....Single or double-ended (specify choice)
Radial Loading.....15 lb maximum (0.250" diameter shaft)
40 lb maximum (0.375" diameter shaft)
Axial Loading.....10 lb maximum (0.250" diameter shaft)
30 lb maximum (0.375" diameter shaft)
Starting Torque.....0.13 oz-in typical for 0.250" shaft
0.38 oz-in typical for 0.375" shaft
Moment of Inertia.....6.5 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)

