

Model 711 Single Channel Model 716 Quadrature



Features

- The Original Industry-Standard Cube
- Wide Choice of PPR's
- Enhanced Technology Using Opto-ASIC circuitry

The Model 711/716 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.

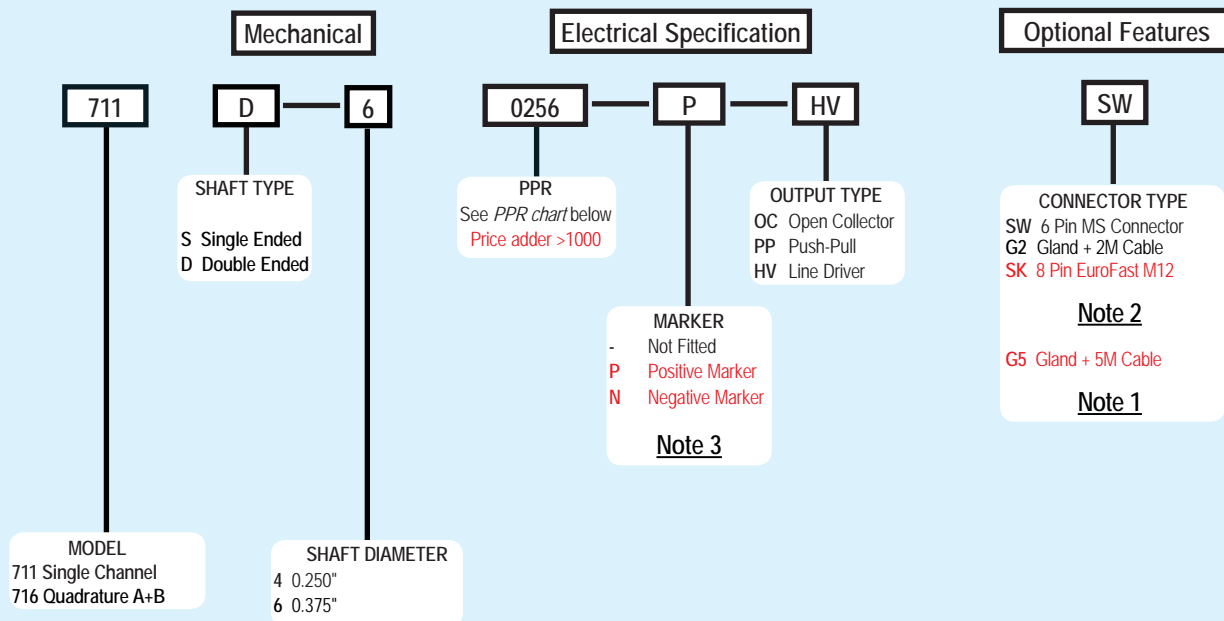
The new Opto-ASIC version increases critical performance specifications for the most popular resolutions. This version features advanced Opto-ASIC circuitry, a single chip design that eliminates many board level components. This increases the reliability of an already dependable and durable encoder. With new options continually being added, the 711/716 just keeps getting better, and better!

Common Applications

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

Model 711/716 Ordering Guide

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



Model 711/716 PPR Options

Standard Cube: All resolutions from 1 to 900 except where Opto-ASIC resolutions are available

0001 thru 0189	0193	0200	0205	0210
0240	0250	0256	0276	0298
0300	0305			
0308	0315	0333	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			
4096	5000	6000	8192	10000

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

NOTES:

- 1 For non standard cable lengths, call the sales office.
- 2 For mating connectors - see accessories page.
- 3 Call sales office for marker availability and configuration options.

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Principle Engineering

Model 711/716 Specifications

Electrical

Input Voltage 4.75 to 24 Vcc max to temperatures up to 70°C
 Input Current 100 mA max (65 mA typical) with no output load
 Input Ripple 100 mV peak to peak at 0 to 100 kHz
 Output Format 711. Square wave with single channel
 716. Quadrature two square waves, channel A leading B for clockwise shaft rotation, as viewed from the encoder mounting face. See *Waveform Diagrams* below.
 Output Types Open Collector- 20 mA max per channel
 Push-Pull- 20 mA max per channel
 20 mA max per channel
 Line Driver- 20 mA max per channel (Meets RS 422 at 5 VCC supply)
 Index Once per revolution.
 Freq. Response 20 kHz standard
 Noise Immunity Tested to BS EN61000-6-2; BS EN50081-2; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6; BS EN500811
 Symmetry 180° (±18°) electrical
 Quad. Phasing 90° (±22.5°) electrical
 Min. Edge Sep 67.5° electrical
 Accuracy Within 0.10° mechanical or 6 arc-minutes from true position
 Electrical Conn. Refer to ordering guide notes

Mechanical

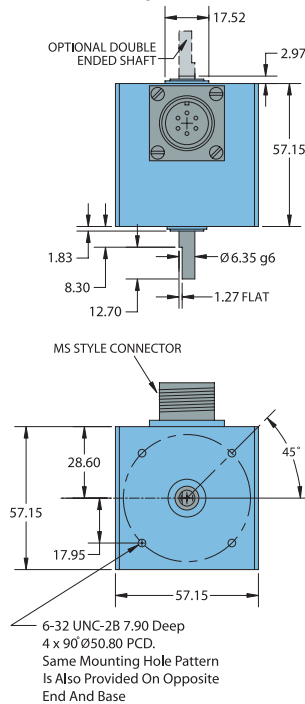
Shaft Size 0.250" or 0.375"
 Shaft Type Single or double-ended (specify choice)
 Shaft Material 303 stainless steel
 Radial Loading 7 Kg maximum (0.250" diameter shaft)
 18 Kg maximum (0.375" diameter shaft)
 Axial Loading 4.5 Kg maximum (0.250" diameter shaft)
 13.6 Kg maximum (0.375" diameter shaft)
 Starting Torque 9.18 x 10⁻⁴ Nm typical for 0.250" shaft
 2.68 x 10⁻³ Nm typical for 0.375" shaft
 Housing Black non-corrosive finished 6063-T6 aluminum
 Bearings Precision ABEC Ball Bearings
 Mounting Tapped mounting holes on three sides for base or face mounting
 Weight 300 gms typical

Environmental

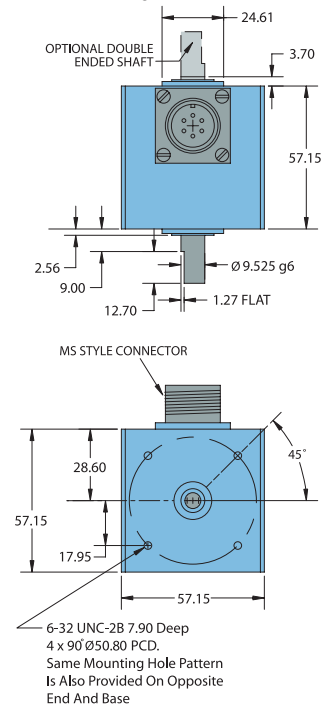
Operating Temp 0° to +70° C standard models
 Storage Temp -25° to +85° C
 Humidity 98% RH non-condensing
 Vibration 10 g @ 58 to 500 Hz
 Shock 80 g @ 11 ms duration
 Sealing IP50 standard

Model 711/716 Encoder

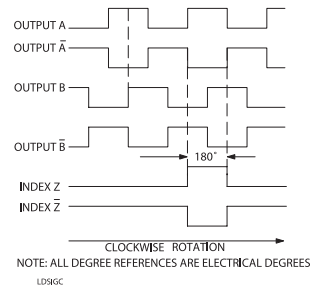
711/716 Housing With 1/4" Shaft



711/716 Housing With 3/8" Shaft



Waveform Diagrams



Wiring Table

Function	Gland Cable Wire Color	8-pin M12 HV A,B,Z	6-pin MS HV A+B	6-pin MS HV A+Z	6-pin MS OC PP
Com	Black	7	A	A	A
+VDC	Red	2	B	B	B
A'	Brown	1	C	C	---
A	White	3	D	D	D
B	Blue	4	E	---	E
B'	Violet	5	F	---	---
Z	Orange	6	---	E	C
Z'	Yellow	8	---	F	---
Shield	Screen	---	---	---	---

CAUTION - Always check wiring colour code against Encoder Label due to changes in specification since September 2006