MODEL 775 – INCREMENTAL ENCODER

FEATURES

Thru-Bore Design for Easy Mounting
Bore Options to 1.375"
Incorporates Opto-ASIC Technology
Resolutions to 4096 CPR
100° C Operating Temperature Available
CE Marking Available

The sleek design of the Model 775 Thru-Bore Series Accu-Coder™ makes form and function a successful reality. The slim profile and Thru-Bore design, makes installation easy by simply slipping the bore over motor shafts up to 1.375" in diameter. The advanced Opto-ASIC based electronics provide the superior noise immunity necessary in many industrial applications. With a variety of bore sizes, resolutions, and connector types, application possibilities are endless.

COMMON APPLICATIONS

Motor Feedback, Velocity & Position Control, Food Processing, Robotics, Material Handling

MODEL 775 ORDERING GUIDE

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

775 – A – H – 1024 – Q – OC – C – Y – N – N – CE

MODEL
775 Slim Thru-Bore

HOUSING STYLE
A Completely encloses motor shaft, and eliminates access to motor shaft. For physical protection only.
B Thru-Bore housing version. Allows access to motor shaft.

OPERATING TEMPERATURE
S 0° to 70° C
H 0° to 100° C

CYCLES PER REVOLUTION
1 - 4096
See *CPR Options* below for available resolutions.
Price adder for CPR >1024

NUMBER OF CHANNELS[1]
Channel A Leads B
Q Quadrature A & B
R Quadrature A & B with Index
Channel B Leads A
K Reverse Quadrature A & B
D Reverse Quadrature A & B with Index
See http://www.encoder.com/literature/index-phasing.pdf for additional options, and waveforms.

OUTPUT TYPE
5 - 28V In/Out[2]
OC Open Collector
PU Pull-Up Resistor
PP Push-Pull
HV Line Driver[3]

CONNECTOR TYPE[4]
P Gland Nut with 24" Cable[5]
W 6-pin MS[6]
Y 7-pin MS[3,6]
X 10-pin MS[6]
J 5-pin M12 (12 mm)[3,6]
K 8-pin M12 (12 mm)[6]
9D 9-pin D-subminiature

BORE SIZE

A	5/8", 0.625" collet style	H	14 mm collet style
B	3/4", 0.750" collet style	I	19 mm collet style
C	7/8", 0.875" collet style	K	24 mm collet style
D	1", 1.000" collet style	M	25 mm clamp style
O	1-1/8", 1.125" clamp style	L	28 mm clamp style
T	1-1/4", 1.250" clamp style	Q	30 mm clamp style
V	1-3/8", 1.375" clamp style	R	32 mm clamp style

ANTI-ROTATION FLEX MOUNT
N None
A Style A

MATING CONNECTOR
N No Connector
Y Yes

CERTIFICATION
N None
CE CE Marked[7]

MODEL 775 CPR OPTIONS

0060	0100	0120	0240	0250	0256	0500
0512	1000	1024	2048	2500	4096	

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

NOTES:

1. Contact Customer Service for index gating options.
2. 5 to 24 VDC max for high temperature option.
3. Line Driver Outputs not available with 5-pin M12 or 6-pin MS connector. Available with 7-pin MS connector only without Index Z.
4. For mating connectors, cables, and cordsets see **Accessories** at encoder.com. For Connector Pin Configuration Diagrams, see Technical Information or see **Connector Pin Configuration Diagrams** at encoder.com.
5. For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: P/6 = 6 feet of cable.
6. Connector options other than 9D and P require extended housing. See drawing, next page.
7. Please refer to Technical Bulletin ***TB100: When to Choose the CE Mark*** at encoder.com.

MODEL 775 SPECIFICATIONS

Electrical

Input Voltage..... 4.75 to 28 VDC max for temperatures up to 70° C
4.75 to 24 VDC for temperatures between 70° C and 100° C

Input Current ..... 100 mA max with no output load

Input Ripple..... 100 mV peak-to-peak at 0 to 100 kHz

Output Format..... Incremental – Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face.
See *Waveform Diagrams*.

Output Types..... Open Collector – 100 mA max per channel
Pull-Up – Open Collector with 2.2K ohm internal resistor, 100 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)

Index..... Once per revolution.
0001 to 0474 CPR: Ungated
0475 to 4096 CPR: Gated to output A
See *Waveform Diagrams*.

Max Frequency ..... 200 kHz

Electrical Protection .. Reverse voltage and output short circuit protected. NOTE: Sustained reverse voltage may result in permanent damage.

Noise Immunity..... Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2

Quadrature..... 67.5° electrical or better is typical,
Edge Separation 54° electrical minimum at temperatures > 99° C

Rise Time..... Less than 1 microsecond

Mechanical

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

User Shaft Tolerances
Radial Runout ..... 0.005"
Axial Endplay..... ±0.030" with appropriate flex mount

Moment of Inertia ... 3.3 X 10^{-3} oz-in-sec^2 typical

Housing ..... All metal construction

Weight..... 1.0 lb with gland nut or D-sub connector option 1.5 lb with MS connector option
Note: All weights typical

Environmental

Storage Temp ..... -25° to 100° C

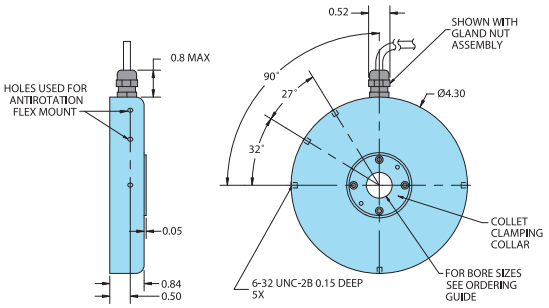
Humidity..... 98% RH non-condensing

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

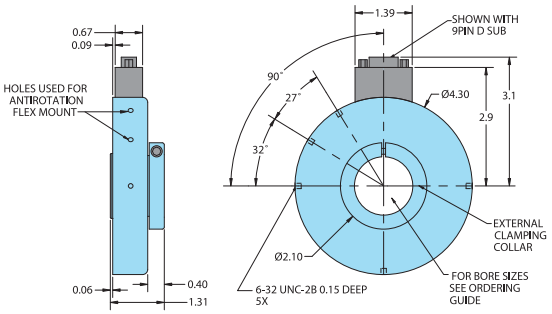
Shock..... 50 g @ 11 ms duration

Sealing..... IP50

MODEL 775 COLLET CLAMP (A, B, C, D, H, I, K)

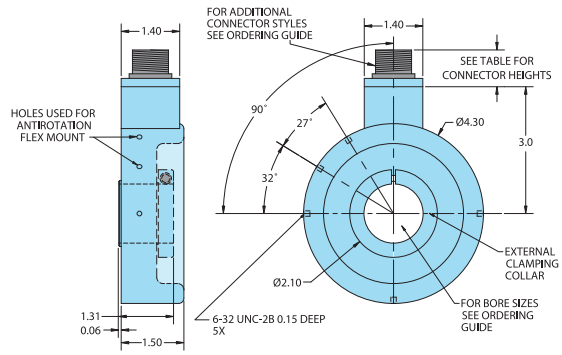


MODEL 775 CLAMP STYLE (O, T, V, M, L, Q)

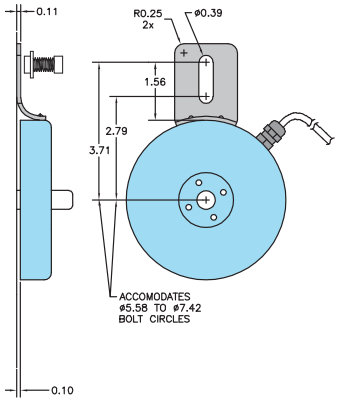


MODEL 775 EXTENDED HOUSING (W, X, Y, J, K)

CONNECTOR TYPE	HEIGHT
6- OR 7-PIN MS	0.67"
10-PIN MS	0.90"
5- OR 8-PIN M12	0.50"



MODEL 775 SHOWN WITH ANTI-ROTATION FLEX MOUNT



All dimensions are in inches with a tolerance of ±0.005" or ±0.01" unless otherwise specified.

WIRING TABLE

For EPC-supplied mating cables, refer to wiring table provided with cable.

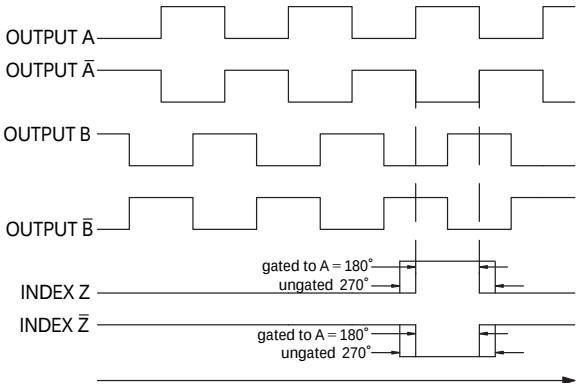
Trim back and insulate unused wires.

Function	Gland Cable† Wire Color	5-pin M12++ PU, PP, OC	8-pin M12++	10-pin MS	7-pin MS HV	7-pin MS PU, PP, OC	6-pin MS PU, PP, OC	9-pin D-sub
Com	Black	3	7	F	F	F	A, F	9
+VDC	Red	1	2	D	D	D	B	1
A	White	4	1	A	A	A	D	2
A'	Brown	--	3	H	C	--	--	3
B	Blue	2	4	B	B	B	E	4
B'	Violet	--	5	I	E	--	--	5
Z	Orange	5	6	C	--	C	C	6
Z'	Yellow	--	8	J	--	--	--	7
Case	--	--	--	G**	G**	G**	--	8+
Shield	Bare*	--	--	--	--	--	--	--

*CE Option: Cable shield (bare wire) is connected to internal Case.
**CE Option: Pin G is connected to Case. Non-CE Option: Pin G has No Connection.
+CE Option: Pin G is connected to Case. Non CE Option: Pin 8 has No Connection.
++CE Option: Use cable cordset with shield connected to M12 connector coupling nut.
†Standard cable is 24 AWG conductors with foil and braid shield.

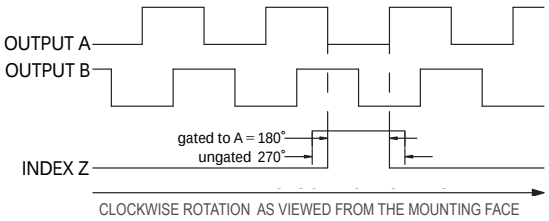
WAVEFORM DIAGRAMS

Line Driver and Push-Pull



NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES.
WAVEFORM SHOWN WITH OPTIONAL COMPLEMENTARY SIGNALS
Ā, B̄, Z̄ FOR HV OUTPUT ONLY.

Open Collector and Pull-Up



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INDEX IS POSITIVE GOING