Model 775 Slim Thru-Bore Encoder

BRITISH ENCODER PRODUCTS COMPANY

Ø109.22mm

Features

- Thru-Bore Design For Easy Mounting
- Bore Options to 1.375"
- Incorporates Opto-ASIC Technology
- Resolutions to 4096 PPR
- 100°C Operating Temperature Available

The sleek design of the Model 775 Thru-Bore Series 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 — S — 0256 — R — HV — A — G2 — 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 Allow access to motor shaft

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

PPR
See *PPR chart* below
Price adder >1000

CHANNELS[1]
Q Quadrature A+B
R Quad + Z Marker A+B+Z
K Reverse Quadrature A+B
D Reverse Quad+Marker A+B+Z

OUTPUT TYPE
5-28V In/Out[2]
OC Open Collector
PP Push-Pull
HV Line Driver[4]
PU Pull-Up Resistor

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

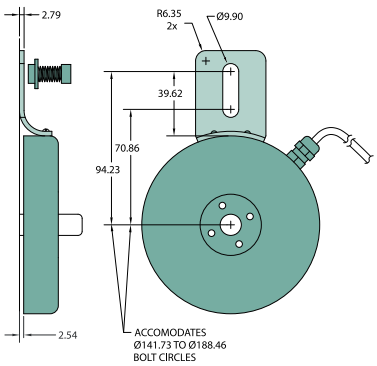
CONNECTOR TYPE
G2 2M Cable with Gland Nut[3]
W 6 Pin MS Style
X 10-pin MS Style
Y 7-pin MS Style
J 5-pin M12 (12mm)
K 8-pin M12 (12mm)
9D 9 Pin D-Subminiature

ANTI-ROTATION FLEX-MOUNT
N None
A Style A

MATING CONNECTOR
N No Connector
Y Yes

CERTIFICATION
CE CE Marked[5]

Model 775 Shown with Anti-Rotation flex-Mount



Model 775 PPR 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

For specification assistance call Customer Service at +44 (0)1978 262100

NOTES:

1. Contact Customer Service for index/Marker gating options.
2. 5 to 24 VCC max for high temperature option.
3. For non-standard cable lengths, Please contact the sales office.
4. Not available with 5-pin M12 or 6-pin MS connector. Available with 7-pin MS connector only without Index Z.
5. For 4096ppr - Please be aware that CE is not available if choosing High Temp option and over 2 Metre Cable Length.

Rev: A

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Model 775 Specifications

Electrical

Input Voltage.....4.75 to 28 VCC max for temperatures up to 70° C
4.75 to 24 VCC for temperatures between 70° C to 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* below.

Output Types .....Open Collector- 100 mA max per channel
Pull-Up- 100 mA max per channel
Push-Pull- 20 mA max per channel
Line Driver- 20 mA max per channel
(Meets RS 422 at 5 VCC supply)

Index.....Once per revolution.
0513 to 4096 PPR: Gated to output A
0001 to 0512 PPR: Ungated
See *Waveform Diagrams* below.

Max Frequency.....200 kHz

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, 54° Edge Separation 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.

Bore Size.....0.625", 0.750" , 0.875", 1.000", 14 mm, 19 mm, 24 mm, 1.125", 1.250", 1.375", 25 mm, 28 mm, 30 mm, 32 mm
Note: Bore sizes 1.125", 1.250", 1.375", 25 mm, 28 mm, 30 mm, 32 mm are clamp style. All others are collet style.

User Shaft Tolerances
Radial Runout.....0.15mm
Axial Endplay.....±0.70mm with appropriate flex mount

Electrical Conn .....Gland nut with 2M cable (foil and braid shield, 24 AWG conductors), 6-, 7-, or 10-pin MS Style, 5- or 8-pin M12 (12 mm), 9-pin D-subminiature

Housing.....All metal construction

Mounting.....Thru-Bore with collet clamp or single-screw clamp mount

Weight.....450 grams with gland nut or D-sub connector option / 680 grams with MS connector options - Note: All weights typical -

Environmental

Operating Temp.....0° to 70° C for standard models
0° to 100° C for high temperature option

Storage Temp.....-25° to 100° C

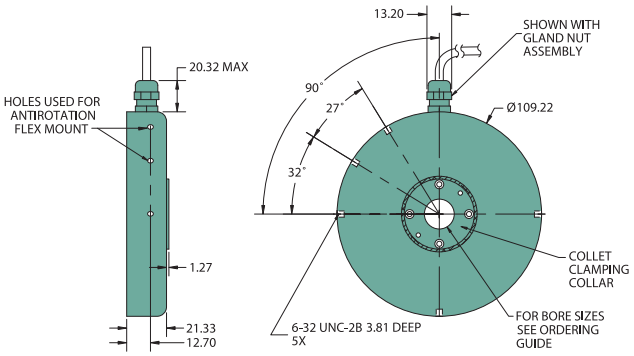
Humidity.....98% RH non-condensing

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

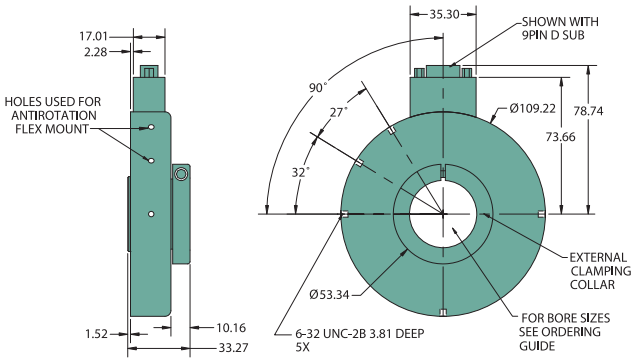
Shock.....50 g @ 11 ms duration

Sealing.....IP50

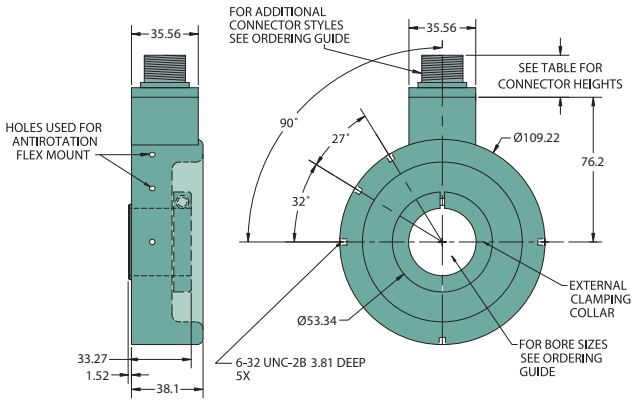
Model 775 Collet Clamp (A, B, C, D, H, I, K)



Model 775 Clamp Style (O, T, V, M, L, Q, R)



Model 775 Extended Housing (W, X, Y, J, K)

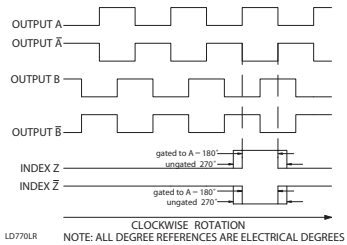


CONNECTOR TYPE	HEIGHT
6- or 7-PIN MS	17.00
10-PIN MS	22.86
5- or 8-PIN M12	12.70

All dimensions are in mm with a tolerance of ±0.254 unless otherwise specified.

Waveform Diagrams

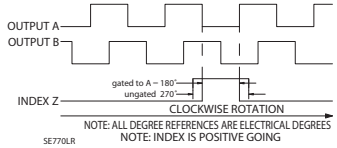
Line Driver and Push-Pull



NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES

NOTE: PUSH-PULL OUTPUT DOES NOT INCLUDE COMPLEMENTARY CHANNELS

Open Collector and Pull-Up



Wiring Table

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

*CE: Cable shield (bare wire) is connected to internal case.
†Standard cable is 24 AWG conductors with foil and braid shield.
**CE: Shield is connected to connector case unless otherwise specified.