

Model 776 Large Bore Slim Thru-Bore Encoder



Incremental Thru-Bore & Motor Mount Encoders

Features

- Slim Profile - Only 34.54mm In Depth
- Thru-Bore Design For Easy Mounting
- Incorporates Opto-ASIC Technology
- Resolutions to 4096
- Bore Options to 1.875"

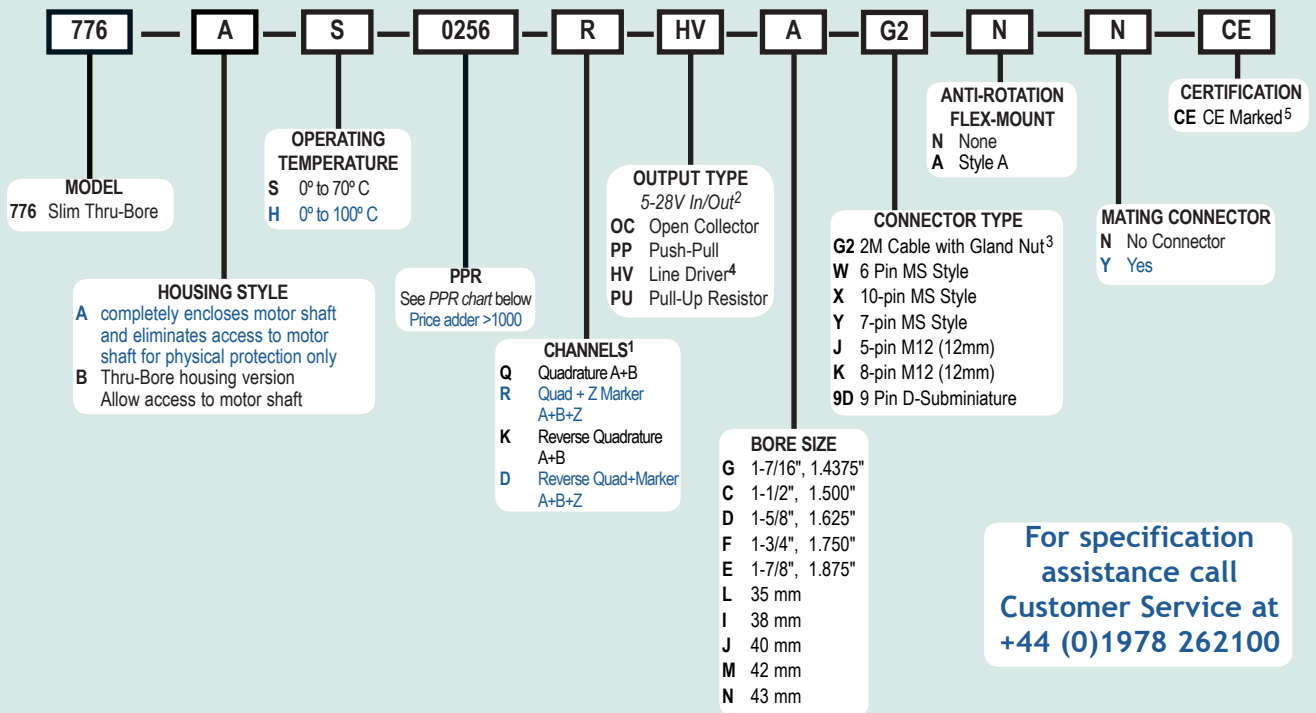
The Thru-Bore Series Model 776 encoder is designed to fit directly on either a motor or other shaft where position, direction, or velocity information is needed. The advanced Opto-ASIC based electronics provide the superior noise immunity necessary in many industrial applications. The Model 776 conveniently features a clamp type mount for fast and easy mounting over a large range of shaft sizes. An optional anti-rotation flex mount maintains housing stability.

Common Applications

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

Model 776 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 +44 (0)1978 262100

Model 776 PPR Options

0060	0100	0120	0240	0250	0256
0500	0512	0600	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/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.

Model 776 Large Bore Slim Thru-Bore Encoder



Model 776 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 Ripple100 mV peak-to-peak at 0 to 100 kHz

Output FormatIncremental- 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 TypesOpen 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 VDC supply)

Index.....Once per revolution.
0475 to 4096 PPR: Gated to output A
0001 to 0474 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

Quadrature67.5° electrical or better is typical, 54°

Edge Separation electrical minimum at temperatures > 99° C

Rise Time.....Less than 1 microsecond

Mechanical

Max Shaft Speed.....3500 RPM. Higher shaft speeds may be achievable, contact Customer Service.

Bore Size1.500", 1.625", 1.750", 1.875", 35 mm, 38 mm, 40 mm, 42 mm, 43 mm

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

Electrical ConnGland 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), or 9-pin D-sub- miniature

Housing.....All metal construction

Mounting.....Thru-bore with single-screw clamp mount

Weight.....450 grams with gland nut or D-sub connector option / 680 grams with MS connector option
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

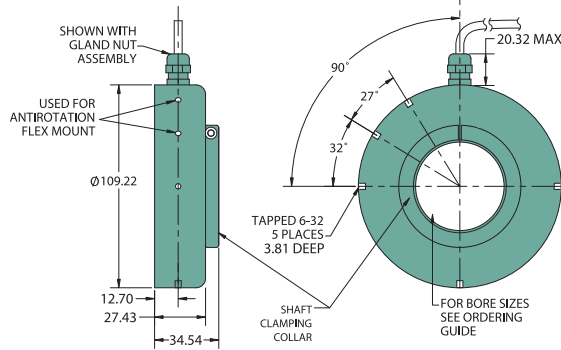
Humidity.....98% RH non-condensing

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

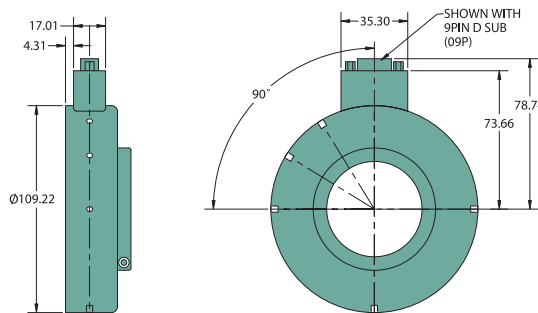
Shock.....50 g @ 11 ms duration

Sealing.....IP50

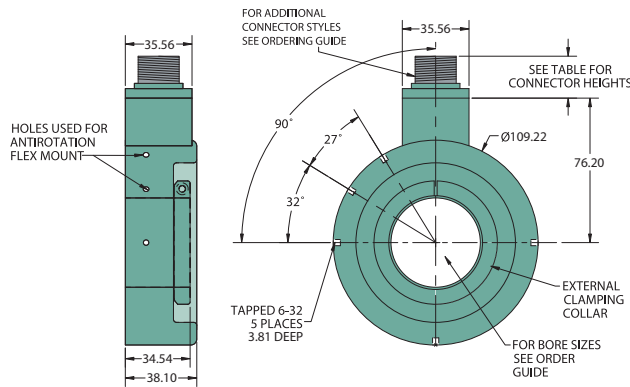
Model 776 With Gland Nut Cable (G2)



Model 776 With 9-Pin D-Sub Connector (9D)



Model 776 Extended Housing (W, X, Y, J, K)



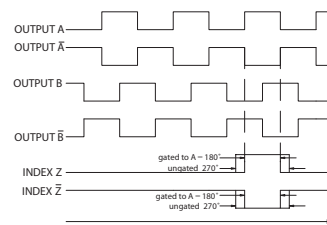
CONNECTOR TYPE	HEIGHT
6- or 7-PIN MS	17.00
10-PIN MS	22.86
5- or 8-PIN M12	12.70



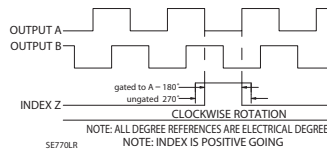
All dimensions are in mm with a tolerance of ±0.254 unless otherwise specified.

Waveform Diagrams

Line Driver and Push-Pull



Open Collector and Pull-Up



Wiring Table

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
+VCC	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
Shield	Bare	---	---	---	---	---	---	---
Case	---	---	---	G	G	G	---	8

Incremental Thru-Bore & Motor Mount Encoders