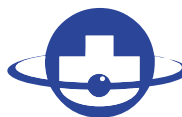


Model 15S Servo-Style



**BRITISH
ENCODER**
PRODUCTS COMPANY



Features

- Very High Performance Economical Encoder
- Low Profile 25.4 mm Height and 38 mm Diameter
- Shaft sizes up to 0.250" Diameter
- Up To 12 Pole Commutation Optional (for brush less motor control)

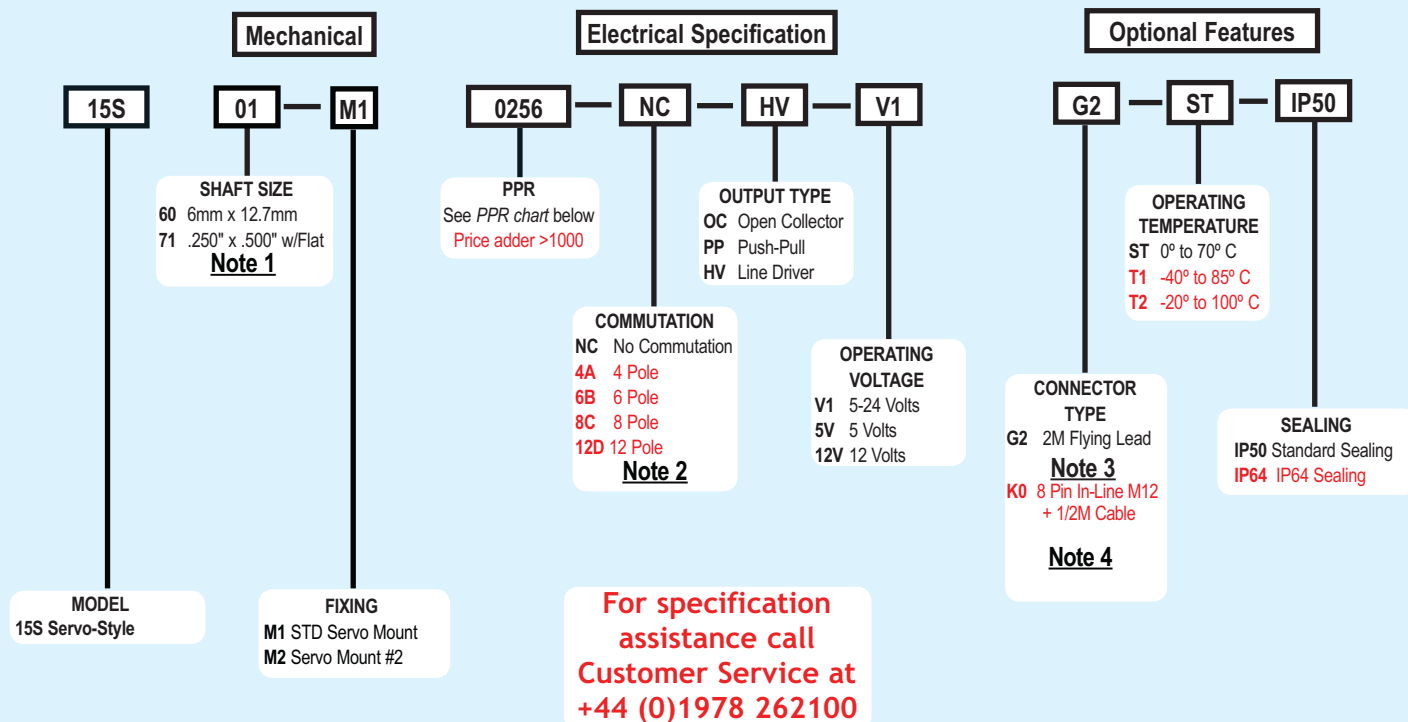
The Model 15S offers a high performance feedback solution in a low profile package, making the Model 15S ideal for commercial and light-duty industrial applications. This industry standard Size 15 (38mm diameter) encoder features a precision bearing set, sealing available to IP64, a durable 1/4" or 6 mm stainless steel shaft, and a selection of servo mount options. The Model 15S may also be specified with features such as extended operating temperatures from -20° C to +100° C, or up to 12 pole commutation for brushless motor control. The Model 15S features our Opto-ASIC circuitry for a clean, reliable signal. Its durable, yet economical design makes it an ideal encoder for high precision OEM applications.

Common Applications

Servo Motor Control, Robotics, Speciality Assembly Machines, Digital Plotters, High Power Motors

Model 15S Ordering Guide

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



Model 15S PPR Options

0001 thru 0189*	0200	0250	0256
0300	0315	0360	0400
0512	0580	0600	0800
1024	1200	1250	1500
2000	2048	2500	2540
4096	6000	8192	10000

*Contact Customer Service For Availability

New PPR values are periodically added to those listed. Contact Customer Service to determine all currently available values. Special disc resolutions are available upon request and may be subject to a one-time NRE fee.

NOTES:

- 1 Contact Customer Service for additional options not shown.
- 2 Not available in all configurations, and not available with V1 Input Voltage. Contact Customer Service for availability.
- 3 For non-standard cable lengths contact sales for availability and cost.
- 4 8 Pin Not available with commutation

Model 15S Servo-Style



Model 15S Specifications

Electrical

Input Voltage4.75 to 28 VCC max for temperatures up to 85° C
4.75 to 24 VCC for temperatures between 85° to 100° C

Input Current100 mA max (65 mA typical) with no output load

Output FormatIncremental- Two square waves in quadrature with 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
Line Driver- 20 mA max per channel (Meets RS 422 at 5 VCC supply)

IndexOnce per revolution.
190 to 2540 PPR: Gated to output A
1 to 189 PPR: Ungated
See *Waveform Diagrams* below.

Freq. Response200 kHz standard (up to 1MHz)

Noise ImmunityTested to BS EN61000-6-2; BS EN50081-2; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6; BS EN500811

Symmetry180° (±18°) electrical

Quad. Phasing90° (±22.5°) electrical

Min. Edge Sep67.5° electrical

Accuracy.....Within 0.017° mechanical or 1 arc-minute from true position. (for PPR>189)

Commutation.....Up to 12 pole. Contact Customer Service for availability.

Comm. Accuracy.....1° mechanical

Mechanical

Max Shaft Speed8000 RPM. Higher speeds may be achievable, contact Customer Service.

Shaft Size6mm & 0.250" g6 Tolerance

Shaft MaterialStainless Steel

Radial Shaft Load2.27 Kg max. Rated load of 0.91 Kg to 1.36 Kg

Axial Shaft Load2.27 Kg max. Rated load of 0.19 Kg to 1.36 Kg

Starting TorqueIP50 3.531 x 10⁻⁴ Nm
IP64 2.825 x 10⁻³ Nm

Max Acceleration.....1 x 10⁵ rad/sec²

Electrical Conn2M cable (foil and braid shield, 24 AWG conductors non-commutated, 28 AWG commutated), 8-pin M12 (12 mm) in-line connector with 0.5M cable (braid shield)

Weight100 grams typical

Environmental

Operating Temp.....-0° to +70° C standard models
-40° to +85° C for low temperature option
-20° to +100° C for high temperature option

Storage Temp.....-25° to +85° C

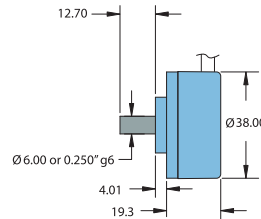
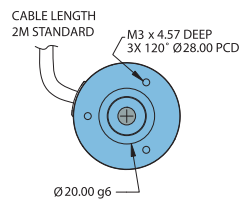
Humidity.....98% RH non-condensing

Vibration10 g @ 58 to 500 Hz

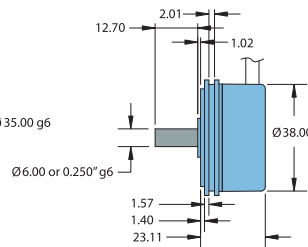
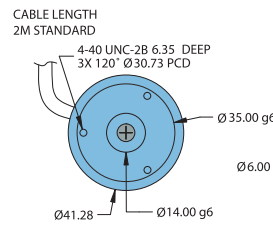
Shock.....80 g @ 11 ms duration

Sealing.....IP50 standard; IP64 available

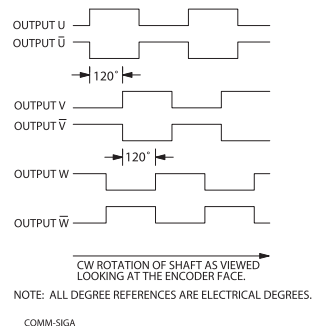
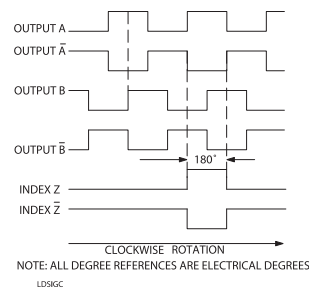
Model 15S Standard Servo Mount (M1)



Model 15S Servo Mount (M2)



Waveform Diagrams



Wiring Table

Function	Cable Wire Color	8-pin M12**
Com	Black	7
+VDC	White	2
A	Brown	1
A'	Yellow	3
B	Red	4
B'	Green	5
Z	Orange	6
Z'	Blue	8
U	Violet	--
U'	Gray	--
V	Pink	--
V'	Turquoise	--
W	Red/Green	--
W'	Red/Yellow	--
Shield	Bare *	--