

# Model 925 Heavy Duty Single Turn Absolute



# Principle Engineering



## Features

- Standard Size 25 Package (63.5mm)
- Resolutions Up To 12 Bit (4096 Counts)
- Incorporates Opto-ASIC Technology
- Industrial Grade, Heavy Duty Housing
- Wide Range of Operating Voltages (4.75 to 24 Vcc)

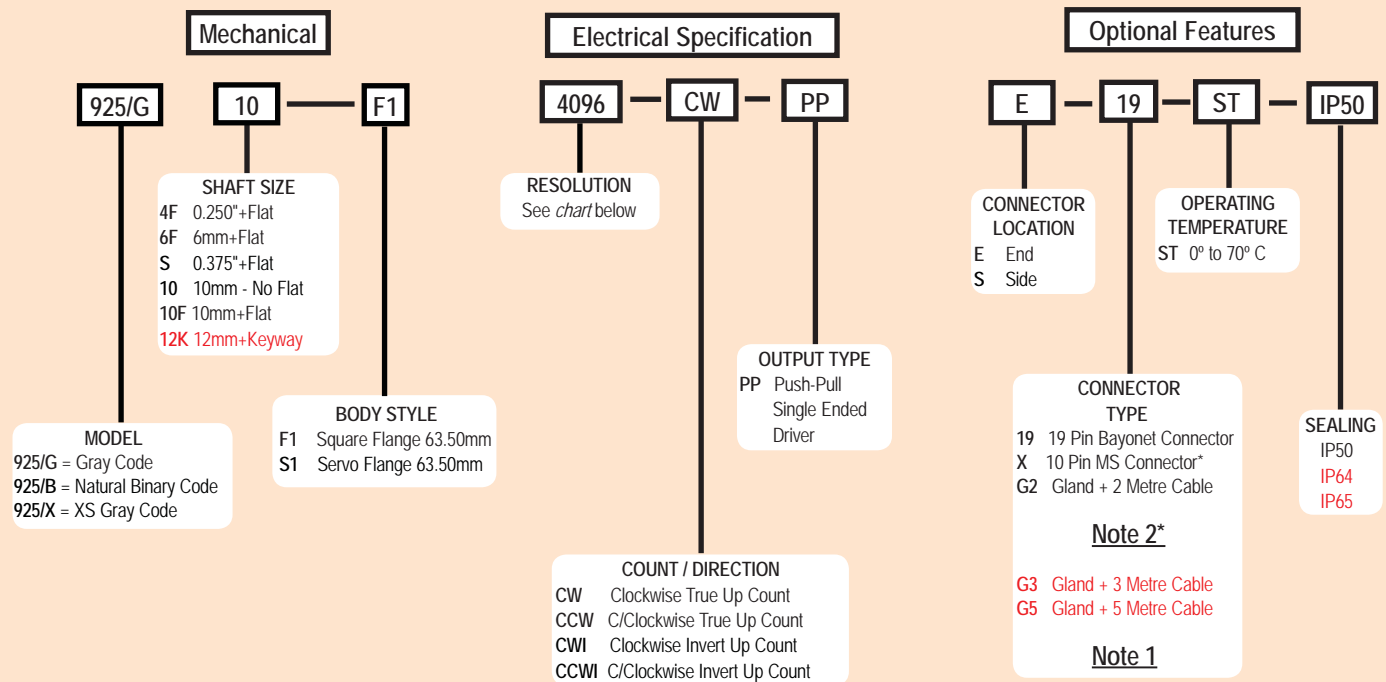
The Model 925 Single Turn Absolute is ideal for a wide variety of industrial applications that require an encoder with the capability of absolute positioning output. Its fully digital output and innovative use of Opto-ASIC technology make the Model 925 an excellent choice for all applications, especially ones with a high presence of noise. Available with either round servo or square flange mounting, and a variety of connector and cabling options, the Model 925 is easily designed into a variety of application requirements. The Model 925, with its wide selection of shaft sizes supported by industrial grade, heavy duty bearings, is ideal for rough environments.

## Common Applications

Machine Tools, Robotics, Telescopes, Antennas, Rotary & X-Y Positioning Tables, Medical Scanners

## Model 925 Ordering Guide

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



**For specification assistance call Customer Service**

## Model 925 Resolution Table

	Output Code	Pulses Per Resolution					
925/G	Gray Code	0256	0512	1024	2048	4096	
925/B	Natural Binary	0250	0256	0360	0500	0512	0720
		1000	1024	1440	2000	2048	2880
		4000	4096				
925/X	Excess Gray	0180	0250	0360	0500	0720	1000
		1440	2000	2880	4000		

### NOTES:

- 1 For non-standard cable lengths - contact sales office for availability.
- 2 Only available with 8 bit resolution encoder.

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## Model 925 Specifications

### Electrical

Input Voltage ..... 4.75 to 24 Vcc max  
 Regulation..... 100 mV peak-to-peak, max ripple at 0 to 10 kHz  
 Input Current..... 100 mA max with no external load  
 Output Format ..... Absolute- Parallel Outputs  
 Output Type ..... Push-Pull- 20 mA max per channel  
 Code ..... Gray Code, Natural Binary Code, Excess Gray Code  
 Max Frequency..... 50 kHz (LSB)  
 Rise Time..... Less than 1 microsecond  
 Resolution..... Up to 12 bit  
 Accuracy.....  $\pm 1/2$  LSB

### Control

Directional Control... Field selectable for increasing counts (CW or CCW)

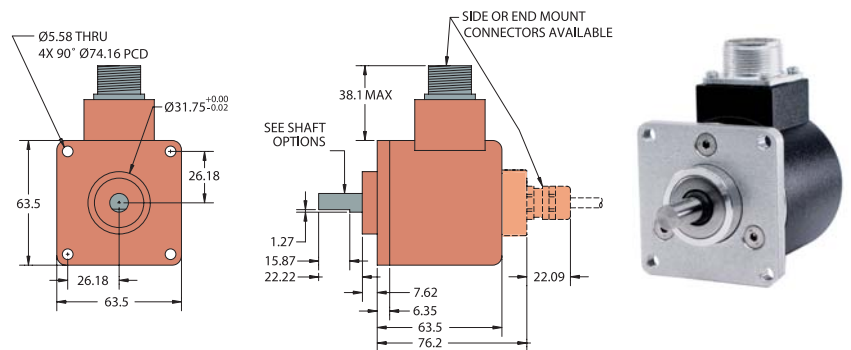
### Mechanical

Max Shaft Speed..... 6000 RPM continuous  
 Shaft Size ..... 0.250", 0.3125", 0.375", 6 mm, 8 mm  
 Radial Shaft Load..... 15 Kg max  
 Axial Shaft Load ..... 20 Kg max  
 Starting Torque ..... 7.061 x 10<sup>-3</sup> Nm typical for no seal  
 1.412 x 10<sup>-2</sup> Nm with IP64 shaft seal  
 Max Acceleration ..... 1 x 10<sup>5</sup> rad/sec<sup>2</sup>  
 Electrical Conn ..... Gland with 2M cable (braid shield, 30 AWG conductors), 10-, 16-, and 19-pin  
 Housing..... Aluminum  
 Mounting..... Flange or servo type  
 Weight..... 630 gms typical

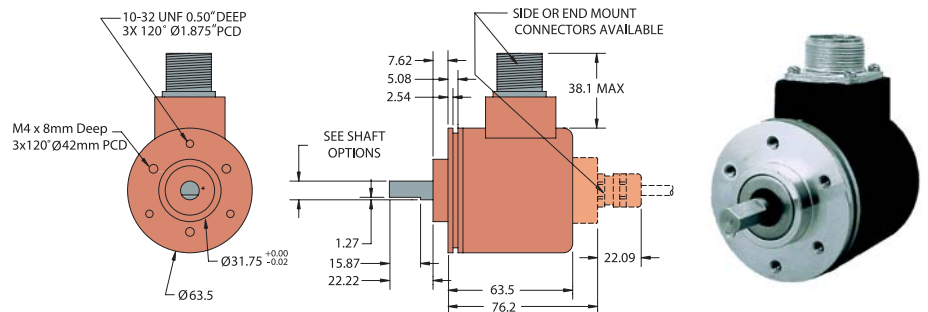
### Environmental

Operating Temp..... 0° to 70° C  
 Storage Temp ..... -20° to +85° C  
 Humidity..... 98% RH non-condensing  
 Vibration..... 10 g @ 58 to 500 Hz  
 Shock..... 20 g @ 11 ms duration  
 Sealing..... IP50 (standard)  
 IP64, or IP65 optional

## Model 925 Flange Mount F1



## Model 925 Servo Mount S1



### Wiring Table

	19-PIN KPT02E14-19P	10-PIN* MS	Gland Cable or Mating Conn.	NOTES:
Function	Pin	Pin	Wire Color	
S1 MSB	A	A	Brown	* Only available with 8-bit resolution encoders
S2	B	B	White	** Where Fitted
S3	C	C	Green	*** Direction Control-
S4	D	D	Orange	Standard is CW increasing
S5	E	E	Blue	when viewed from the
S6	F	F	Violet	shaft end. Direction pin is
S7	G	G	Grey	pulled high normally to 5V
S8 LSB 8-bit	H	H	Pink	internally. Direction pin
S9 LSB 9-bit	J	—	Red/Green	must be pulled low
S10 LSB 10-bit	K	—	Red/Yellow	(GND, Common) to reverse
S11 LSB 11-bit	L	—	Turquoise	count direction. <b>0V only</b>
S12 LSB 12-bit	M	—	Yellow	<b>should be applied to</b>
Direction***	R	—	Red/Blue	<b>the direction pin.</b>
Case Ground	S	—	Drain/Screen	
0V Common	T	J	Black	
Special**	U	—	White/Red	
+Vcc	V	I	Red	