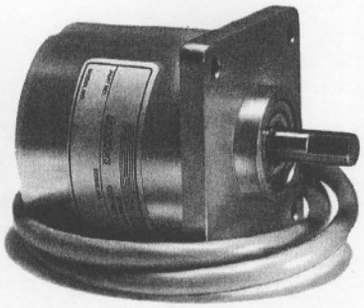


- ***Heavy-duty size 25 (2.5" diameter) construction***
- ***Up to 5000 PPR with optional markers***
- ***High performance***

The Series 625/525 encoders are high resolution, optical incremental transducers suitable for industrial shop-floor environments. They feature mechanical standard size 25 flange, servo, and face mounting options for easy mounting.

The electrical outputs are designed to be compatible with most instruments, electronic counters, PLC's, CNC's, motion controllers, and motor drives. Optional differential line driver outputs allow for longer cable runs (hundreds of feet) and higher electrical noise immunity for the signals.

The 625 is designed with heavy-duty bearings, sealing at the shaft, cast metal enclosure with environmental seals, and sealed MS pin connectors or pre-wired cables. The Series 525 features the same construction but with shielded bearings and lower starting torque.

Industry-standard flange, servo, and face mounting options can be connected easily via flexible couplings to leadscrews/ballscrews, rack and pinions, etc. Axial and radial connectors are available.

Applications

- CNC's, machine tool, cutting, forming, welding, robotics
- Oil well, logging
- Counters, instruments, web processing, roll handling
- PLC's, material handling, food processing, assembly machines
- Rotary tables

Mechanical and Environmental Features

- 3/8" or 1/4" dia. stainless steel shaft
- Flange, servo, or face mounting
- Environmentally sealed enclosure
- Up to 5000 RPM
- ABEC precision bearings
- 0 to 70°C operating range
- Heavy-duty sealed MS pin connector

Electrical Features

- Up to 5000 pulses per revolution
- 100 kHz frequency response standard, 250 kHz available
- Current sink or line driver outputs
- Bidirectional and marker pulse
- Single LED illumination of all detectors for better long-term performance

SPECIFICATIONS

Electrical

Resolution: See Ordering Information for standard counts (cycle per shaft revolution). Other counts available; contact factory.

Code: Incremental

Power Supply:

Open Collector, TTL Totem Pole or TTL Line Driver outputs: 5 to 26 VDC; 120 mA max.

CMOS Line Driver: 5 to 15 VDC; 70 mA max.

Output Current:

Open Collector: 7406; 40 mA sink at 0.5V

TTL Totem Pole: 7404

TTL Line Driver: TC4428; 40 mA sink/source

CMOS Line Driver: TC4428; 40 mA sink/source

Output Format: Two channel quadrature with optional zero reference and complementary outputs.

Quadrature Phasing: 90° ± 18°

Symmetry: 180° ± 9°

Phase Sense: A leads B for CCW rotation as viewed from the shaft end of the encoder

Zero Reference: .5 cycles wide

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

Frequency Response: Count channel 100 kHz. Zero reference 75 kHz relative to count channel; 250 kHz available, see Ordering Information table, Code 5

Illumination: Single gallium-aluminum-arsenide LED

Connector: 7 pin, style MS3102E-16S-1P
10 pin, style MS3102E-18-1P

Mating Connector:
7 pin, style MS3106A-16S-1S (Dynapar No. MCN-N5);
10 pin, style MS3106A-18-1S (Dynapar No. MCN-N6)

Mechanical

Bearings: ABEC precision bearings

Shaft Tolerance: – 0.0003"/ – 0.0007"

Shaft Loading: 40 lbs. axial and 35 lbs. radial (5 lbs. axial and radial for Series 525 w/1/4" shafts only)

Starting Torque: Series 625: 5 oz-in max. Series 525: 1.0 oz-in max.

Moment of Inertia: 3.7 x 10^{-4} oz-in-sec^2 max.

Weight: 13 oz. max.

Slew Speed: 5000 RPM max.

Environmental

Operating Temperature Range: 0° to +70°C

Storage Temperature Range: -40° to +90°C

Shock: 50 G's for 11 milliseconds duration

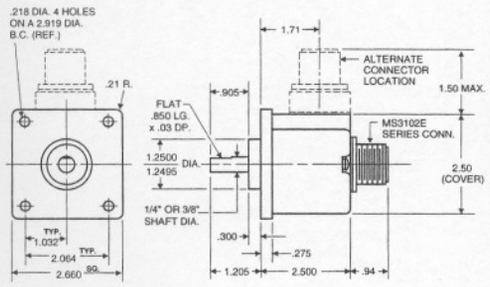
Vibration: 5 to 2000 Hz @ 2 G's

Humidity: to 98% without condensation

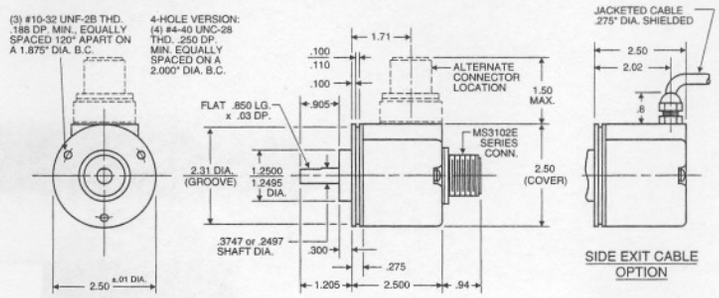
Enclosure Rating:
Series 525: NEMA12 / IP54
Series 625: NEMA4 / IP66

Approximate Dimensions (in inches)

FLANGE MOUNT VERSION – Fig. 1



2.50 DIA. SERVO/FACE MOUNT VERSION – FIG.2



Electrical Connections

Table 1 – Differential Line Driver

Pin	Function (If Used)	Wire Color Code	Cable* Accessory Color Code
A	Signal A	BRN	BRN
B	Signal B	ORN	ORN
C	Signal Z	YEL	YEL
D	Power Source	RED	RED
E	No Connection	—	—
F	Common	BLK	BLK
G	Case	GRN	GRN
H	Signal $\overline{A}$	BRN/WH	BRN/WH
I	Signal $\overline{B}$	ORN/WH	ORN/WH
J	Signal $\overline{Z}$	YEL/WH	YEL/WH

*Cable Accessory: P/N 14006350010

Table 2 – Single Ended

Pin	Function (If Used)	Wire Color Code	Cable* Accessory Color Code
A	Signal A	BRN	RED
B	Signal B	ORN	BLUE
C	Signal Z	YEL	YEL
D	Power Source	RED	WHT
E	No Connection	—	GRN
F	Common	BLK	BLK
G	Case	GRN	SHIELD

*Cable Accessory: P/N 14004310010

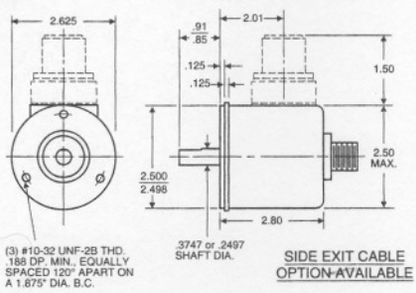
Table 3 – Differential

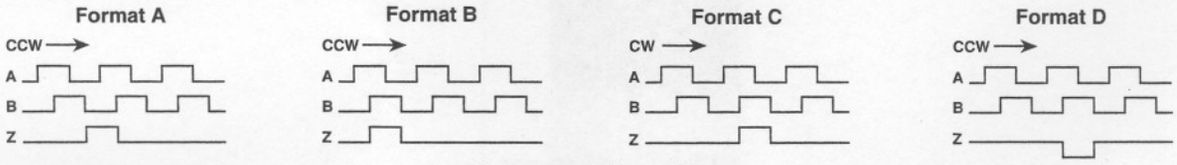
Pin	Function (If Used)	Cable* Accessory Color Code
A	Signal A	BRN
B	Signal B	ORN
C	Signal $\overline{A}$	BRN/WHT
D	Power Source	RED
E	Signal $\overline{B}$	ORN/WHT
F	Common	BLK
G	Case	GRN

*Cable Accessory: P/N 108596

Note: Wire color codes are referenced here for models that are specified with pre-wired cable. Connector/cables are described in the Encoder Accessories section of this catalog and color-coding information is provided here for reference.

2.62 DIA. SERVO/FACE MOUNT VERSION – FIG. 3





Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination
525 Size 25 Enclosed, Shielded Bearings **625** Size 25 Enclosed, with Shaft Seal	For Resolutions below 2540, see Series H25 **3000** **3600** **4096** **5000**	**0** Flange Mount, 3/8" Shaft, Figure 1 **1** 2.50" Servo Mount/4 Hole Face Mount, 3/8" Shaft, Figure 2 **2** Flange Mount, 1/4" Shaft, Figure 1 **3** 2.50" Servo Mount/4 Hole 2.00" BC Face Mount, 1/4" Shaft, Figure 2 **4** 2.50" Servo Mount/3 Hole, 2.00" BC Face Mount, 3/8" Shaft, Figure 2 **5** 2.50" Servo Mount/3 Hole Face Mount, 1/4" Shaft, Figure 2 **6** 2.50" Servo Mount/3 Hole, 1.88" BC Face Mount, 3/8" Shaft, Figure 2 **7** 2.50" Servo Mount/3 Hole, 1.88" BC Face Mount, 1/4" Shaft, Figure 2 **8** 2.62" Servo Mount/3 Hole, 1.88" BC Face Mount, 3/8" Shaft, Figure 3 **9** 2.62" Servo Mount/3 Hole, 1.88" BC Face Mount, 1/4" Shaft, Figure 3	**0** Single Ended, no Index, Format A, Table 2 **1** Single Ended, with Index, Format A, Table 2 **2** Differential, no Index, Format A, Table 1 **3** Differential, with Index, Format A, Table 1 **4** Single Ended, with Index, Format B, Table 2 **5** Differential, with Index, Format B, Table 1 **6** Differential, no Index, Format C, Table 3 **A** Single Ended, with Index, Format C, Table 2 **B** Differential, with Index Format C, Table 1 **C** Single Ended, no Index, Format C, Table 2 **D** Differential, no Index, Format C, Table 1 **G** Single Ended, with Index, Format D, Table 2	**0** 5-26 VDC in; 7406 Open Collector with 2.2kΩ Pullup out **1** 5-26 VDC in; 7406 Open Collector out **2** 5-26 VDC in; 7404 TTL Totem Pole out **3** 5-26 VDC in; 8830 TTL Line Driver out **4** 5-15 VDC in; 4428 CMOS Line Driver out **5** 5-26 VDC in; 250kHz, 5 Volt TTL Line Driver out **6** 5-15 VDC in; 250kHz, CMOS Line Driver out	**0** End Mount Connector **1** Side Mount Connector **2** 18" Cable **3** 3' Cable **4** 6' Cable **5** 10' Cable **6** 15' Cable available when Code 1 = 625: **A** 18" Watertight Cable **B** 3' Watertight Cable **C** 6' Watertight Cable **D** 10' Watertight Cable **F** 15' Watertight Cable