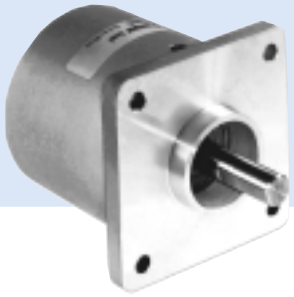
Series H42

- *Economical, industry standard 2.5" industrial duty encoder*
- *Ultra-reliable, "no glass" design – uses unbreakable code disk*
- *ESD/RFI and transient electrical noise immunity tested to EN50082-2*
- *Complete electrical protection for overvoltage and reverse polarity*
- *Rugged cast aluminum housing*
- *Same-day shipment of all models*



APPLICATION/INDUSTRY

The Dynapar brand Series H42 encoder is an economical, rugged, general-purpose, optical encoder that generates an accurate pulse output proportional to shaft rotation.

DESCRIPTION

An unbreakable code disk meets the demands of the most severe shock and vibration generating processes. Use of long life bearings keep tough loads from disrupting internal alignment, avoiding failure due to the disk "crashes" so typical in competitive encoders. Protection against installation problems such as wiring errors prevents the encoder from damage, while immunity to electrical noise keeps the encoder signals intact.

Resolutions from 1 to 600 pulses per revolution; quadrature coding; and differential line driver outputs lets the Series H42 fit well into a wide range of unidirectional and bidirectional applications.

Series H42 is a direct, modernized replacement for the popular Series 42 encoders. Use of latest technology optical emitters and sensors, surface mount assembly and precisely fabricated metal components, delivers high reliability and performance in a compact and economical package.

FEATURES AND BENEFITS

Mechanical / Environmental Features

- Unbreakable code disk
- Rugged, industrial duty cast aluminum housing
- Long life, 80 pound bearings
- Up to 7200 RPM
- 0 to 70°C operating range
- Quick connect/disconnect MS connector
- 3/8" stainless steel shaft

Electrical Features

- Noise Immune to ESD, RFI and electrical transients
- Over-Voltage protection
- Reverse Voltage protection
- High current outputs
- 100 kHz frequency response

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
Resolution: 1 to 600 PPR (pulses/revolution)
Accuracy: (Worst case any edge to any other edge) ±7.5 arc-min.
Format: Two channel quadrature (AB) with complementary outputs
Phase Sense: A leads B for CW shaft rotation as viewed from the shaft end of the encoder; see Ordering Information
Quadrature Phasing: 90° ± 20° electrical
Symmetry: 180° ± 18° electrical
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power:
4.5 min. to 26 VDC max. at 90 mA max., not including output loads
Outputs:
7272 Push-Pull and Differential Line Driver: 40 mA sink or source
Frequency Response: 100 kHz min.
Electrical Protection: Overvoltage, reverse voltage and output short circuit protected
Noise Immunity: Tested to EN50082-2 (Heavy Industrial) for Electro Static Discharge, Radio Frequency Interference, Electrical Fast Transients, Conducted and Magnetic Interference

CONNECTIONS

Connector Termination:
7 pin, style MS3102E-16S-1P
Mating Connector:
7 pin, style MS3106A-16S-1S (MCN-N5);

MECHANICAL

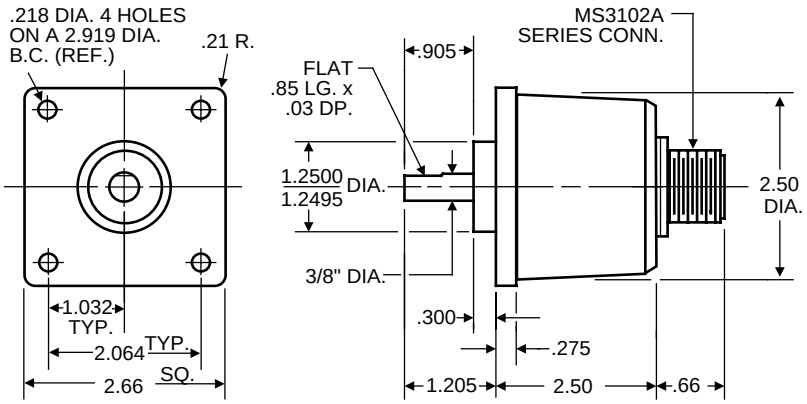
Shaft Loading: (at 0.25" from encoder face) 80 lbs. radial, 80 lbs. axial
Shaft Speed: 7200 RPM max.
Shaft Runout: 0.001" max. TIR
Moment of Inertia: 3.0×10^{-4} oz–in–sec^2
Weight: 13 oz.

ENVIRONMENTAL

Operating Temperature: 0 to +70 °C
Storage Temperature: –40 to +90 °C
Shock: 50 G's for 11 milliseconds duration
Vibration: 5 to 2000 Hz at 20 G's
Humidity: to 98% without condensation
Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

Series H42

Approximate Dimensions (in inches)



Electrical Connections

With Line Driver Output		
Pin	**Function (If Used)**	**#14004310010* Cable Accessory Color Code**
A	Signal A	RED
B	Signal B	BLUE
C	Signal $\bar{A}$	YELLOW
D	Power Source	WHITE
E	Signal $\bar{B}$	GREEN
F	Common	BLACK
G	Case	SHIELD

*This is a mating connector/cable assembly described in the Encoder Accessories section of this catalog. Color-coding information is provided here for reference.

Ordering Information

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

Code 1: Model	Code 2: Pulses/Rev
H42	☐☐☐☐
H42 Size 25, Economical	**0001** **0012** **0060** **0100** **0120** **0500** **0600**