HAZARDOUS DUTY

SERIES X25

For Hazardous Location Application

Key Features

• Approved for NEC Class 1 Div 1 & 2 Groups C & D

• Approved for NEC Class 2, Div 1 & 2, Groups E, F, & G

• Rugged Enclosure with 1/2” Conduit Entry

• 5000 PPR Capability

• Environmentally Sealed and Corrosion Resistant

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: 1 to 5000 PPR (pulses/revolution)
Accuracy: (Worst case any edge to any other edge) ≤1024 PPR (metal disk): ±7.5 arc-min.
>1024 PPR (glass disk): ±2.5 arc-min.
Format: Two channel quadrature (AB) with optional Index (Z) and complementary outputs
Phase Sense: A leads B for CCW shaft rotation as viewed from the shaft end of the encoder
Quadrature Phasing: 90° ± 25° electrical
Symmetry: 90° ± 25° electrical
Index: 2540 PPR and below: 180° ± 25° electrical
Greater than 2540 PPR: 90° ± 25° electrical
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power: 5 to 26 VDC at 80 mA max., not including output loads
Outputs:
7273 Open Collector: 30 VDC max., 40 mA sink max.
7272 Push-Pull and Differential Line Driver: 40 mA sink or source
Frequency Response: 100 kHz min. (index
75 kHz min. for extended temperature range)
Noise Immunity: Tested to EN61326-1
Electrical Immunity: Reverse polarity and short circuit protected
Termination: Cable Exit

MECHANICAL

Shaft Sizes: 1/4” or 3/8”
Shaft Loading: 40 lbs. radial, 40 lbs. axial
Shaft Speed: 5,000 RPM max.
Shaft Runout: 0.001” max. TIR
Starting Torque: (max at 25 °C) 2.0 oz.-in
Moment of Inertia: 9.0 x 10^-4 oz–in–sec^2
Housing and Cover: Cast Aluminum
Shaft Material: Stainless Steel
Disc Material: Glass or Mylar (PPR Dependant)
Weight: 4.5 lbs. (2.0 kg)

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 2 G’s
Humidity: Up to 98% (non-condensing)
Enclosure Rating: NEMA4X/IP66 (Dust Proof, Washdown)

OUTPUT FORMAT

Below 2540PPR

Format A

CCW
A
B
Z

Format C

CW
A
B
Z

2540PPR and Above

Format A

CCW
A
B
Z

Format C

CW
A
B
Z
### Ordering Information

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

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**X25**
- Explosion Proof, Shielded Bearings with Shaft Seal

- Code 0: 3/8” Shaft
  - Code 0: Single Ended, no Index, Format C
  - Code 1: Single Ended, with Index, Format C
  - Code 2: Differential, no Index, Format C
  - Code 3: Differential, with Index, Format C
  - Code 4: Single Ended, with Index, Format A
  - Code 5: Differential, with Index, Format A

- Code 1: 1/4” Shaft

- Code 5: 5-26V in; 5-26V Open Collector with 2.2kΩ Pullup out
  - Code 1: 5-26V in; 5-26V Open Collector out
  - Code 2: 5-26V in; 5V Totem Pole out
  - Code 3: 5-26V in; 5V Line Driver out
  - Code 4: 5-26V in; 5-26V Line Driver out

### DIMENSIONS

Approximate Dimensions (in inches)

- Terminal Board Connections
  - Screw terminals with pressure plates that accept #14 AWG to #22 AWG.