

# J150 50MM INCREMENTAL ENCODER

TOUGH, RUGGED-DUTY, DURABLE  
HIGH RESOLUTION MAGNETIC ENCODER

**J1 LINE OF RUGGED INCREMENTAL ENCODERS:**  
JORAL DEVICES HAS DEVELOPED A NEW LINE OF RUGGED-DUTY ROTARY ENCODERS TO MEET THE DEMANDS OF THE MOBILE HYDRAULICS AND INDUSTRIAL MARKETPLACE. THE ENCODER MARRIES A UNIQUE MECHANICAL DESIGN WITH ADVANCED DIGITAL SIGNAL PROCESSING TECHNOLOGY. THE RESULT IS AN EXTREMELY DURABLE AND VERSITILE ANGULAR MEASUREMENT SENSOR THAT PERFORMS IN A WIDE VARIETY OF TOUGH APPLICATIONS.

THE J1 ENCODER HAS PASSED MIL-STD 202 TESTING. ALL ELECTRONICS IS SEALED IN HIGH STRENGTH POTTING COMPOUND PROVIDING PROTECTION FROM SHOCK, VIBRATION AND EXTREME CONDITIONS. LED INDICATORS ARE GREAT FOR INSTALLATION OR TROUBLESHOOTING. THE FLEXIBLE DESIGN PROVIDES A WIDE RANGE OF OPERATING VOLTAGE, TEMPERATURE, AND RESOLUTIONS. BUILT-IN OVER VOLTAGE, MIS-WIRE AND SPIKE PROTECTION KEEP THIS ENCODER RUNNING.



J150 Encoder

## SPECIFICATIONS

### Mechanical

**Enclosure:** 50mm diameter billet 6160 aluminum

**Mounting:** Servo ring / 4 face mounting holes

**Shaft:** Stainless steel, non-magnetic. See Table for available size and style

**Weight / Height:** 8oz / 43mm body

**Maximum RPM:** 6000 PRM

**Shaft Assembly:** Internally supported by oversize dual ball bearings

**Bearings:** Chrome Steel

**Exterior Finish:** Anodized

### Electrical

**Supply Voltage:** 6 to 30 VDC

**Current Draw:** 100 milliamps typical

**Output Format:** Incremental quadrature (Ch A and Ch B, with optional Marker)

**Output Resolution:** 10 to 2048 quadrature pulses per revolution (13 bit)

**Output Driver:** Push/Pull (OLP7272)

**Protection:** reverse polarity, spike, noise, open circuit, short circuit

**Electrical Connections:** 5 wire plug-able terminal strip (see Table)

**LED Indicators:** Power, Channel and Marker

### Environmental

**Temperature:** -25 to +70 degrees C

**Humidity:** 100% relative humidity

**Potting Compound:** Non-porous, water and chemical resistant, RoHS compliant

**Shock & Vibration:** Meets MIL-STD-202 Specs (information available on web site)  
Shock—half sine, 50g, 11ms Thermal Shock— -40 to + 125 one hour dwell  
Vibration—10 to 500 hz at 10g

**Enclosure Rating:** IP65, 67 or 68 (depending on connection style)

## ORDERING

J150 -  -  -

PPR: QUAD PULSES PER REV (SEE TABLE 1)

SS: SHAFT STYLE (SEE TABLE)

OP: OPTIONAL FEATURES

## OPTIONS AND CUSTOMS

OPTIONS AND CUSTOMIZATIONS ARE AVAILABLE FOR CONNECTORS, SHAFT CONFIGURATION, MOUNTING, LABELING, COLOR AND SPECIAL ELECTRICAL CHARACTERISTICS.

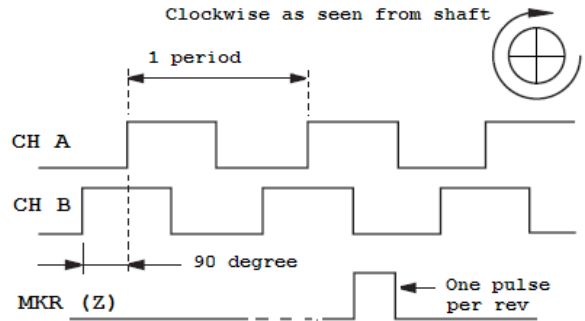
CONTACT JORAL DEVICES FOR DETAILS.

# OUTPUT PULSES PER REVOLUTION (PPR)

The following standard resolutions are available. Consult the factory for any other resolutions. The resolution specifies the number of pulses per revolution per channel (CH A and CH B).

Decimal Resolutions: 10, 20, 25, 40, 50, 80, 100, 125, 200, 250, 400, 500

Binary Resolutions: 8, 16, 32, 64, 128, 256, 512, 1024, 2048



## CONNECTIONS

Encoders come standard with 5 pin connector with M2 locking screws capable of terminating a 16 to 28 gauge wire. Connector simply plugs in for easy installation.

- Pin 1 : +V (6 to 30 VDC)
- Pin 2: Gnd
- Pin 3: Channel A output
- Pin 4: Channel B output
- Pin 5: Marker pulse M



## SHAFT OPTIONS

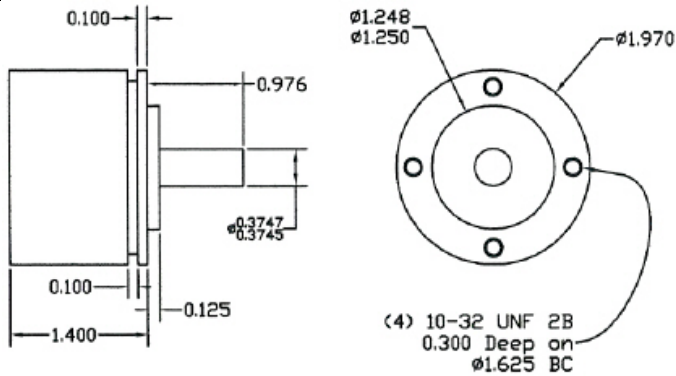
6R: 6mm round                      6F: 6mm round with flat  
6C: 6mm round with cross hole

10R: 10mm round                    10F: 10mm round with flat

375R: 0.375" round                375F: 0.375" round with flat  
375L: 0.375" round with slot  
375X: 0.375" hex with .312 across flats

Consult the factory for additional styles or diameters.

## MECHANICAL DETAILS



The J150 provides a servo ring and four 8-32 threaded holes for mounting.

## JORAL DEVICES ENCODERS:

JORAL OFFERS A VARIETY OF SHAFT DRIVEN INCREMENTAL AND ABSOLUTE ROTARY ENCODERS IN 30, 40, 50, AND 58 MM DIAMETERS AND VARIOUS CONFIGURATIONS. WE ALSO HAVE THE JORAL HOCKEY PUCK ENCODER FOR NON-CONTACT APPLICATIONS. CONTACT JORAL DEVICES OR YOUR DISTRIBUTOR FOR DETAILS.



The Joral Hockey Puck Encoder