

# Avtron AV20 Encoders



**Optical Light Mill Duty Solid  
Shaft Encoder, 2" Flange  
Mount**

## Setting a New Standard **AV20**

- | Shaft Sizes include 1/4", 3/8", and 10mm
- | Simple Installation
- | Unbreakable Optical Disk
- | Up to 3600 PPR
- | Wide-Gap Technology: Up to 8X larger gap between sensor and rotor
- | Direct Replacement for Model H20 and Others without Rewiring
- | Industry Standard Face or Flange Mounting
- | IP65/Nema 4 Rating: Dust and Liquid Tight
- | Superior Bearings and Seals
- | -40°C to +100°C Operation
- | 2 Year No-Hassle Warranty

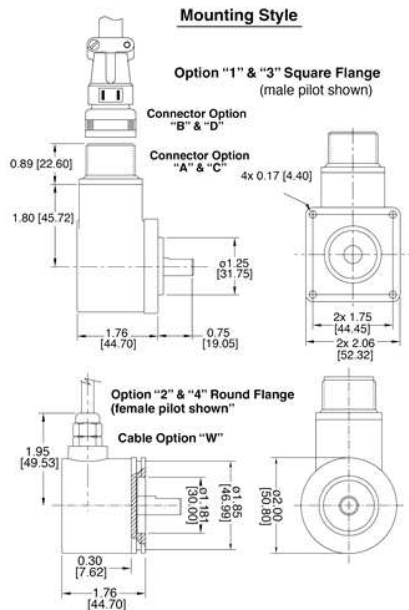
AV20 encoders look like industry standard incremental quadrature rotary encoder units, and fit the same mounting patterns on all machines. That's where the similarity ends. Our AV20 encoders can withstand conditions that make other encoders fail. The solid aluminum housing and stainless steel shaft offer increased durability in tough environments.

Avtron AV20 encoders have superior shaft seals and bearings that stay sealed to keep contaminants out, through temperature cycling and liquid sprays. Our encoder seals are protected by mechanical barriers to prevent flexing or failure. Avtron's superior bearings permit much larger side and axial loads for pulley and belt applications, and feature synthetic lubricants for even longer life in all applications.

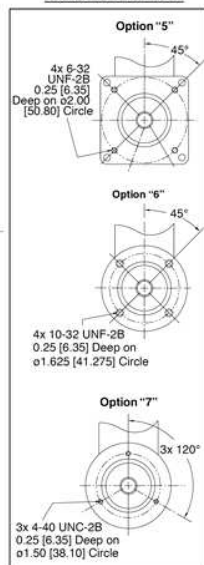
Many competitive optical encoder designs risk sensor damage from any vibration or shock: sensors ride less than four thousandths of an inch from the thin, often flexible, optical disk spinning at full motor speeds. Some designs even use thin glass disks in "industrial" products! Avtron uses only unbreakable disks and a sensor to disk gap over 8X larger than the competition.

Our optical AV20 encoders are setting a new standard for quality, durability, and performance. Select an Avtron AV20 today!

## OUTLINE DRAWING



### Face/Bolt Pattern



- | All-digital design, no trim pots or adjustments for longer life
- | Advanced sensor technology
- | Superior bearings with synthetic lubricant for longer life
- | No extra charge for signal complements and marker pulse
- | More than 2X the axial and side load capability of the competition
- | Superior line drivers withstand short circuits and reverse voltage wiring errors

## AV20 SPECIFICATIONS

**Operating Power:** Volts: 5 - 28 VDC; Current: 50mA, no load

**Output Format:** A Quad B with marker (A,A-, B,B-, Z,Z-) available

**Frequency Range:** 0 to 125 KHz

**PPR: 1 - 3600 Standard (for other PPR needs consult factory)**

**Speed:** 6000 RPM Max., (for higher speeds, consult factory)

- **Axial Load:** 100 lbs [45 kg] max.
- **Radial Load:** 100 lbs [45 kg] max.

**Temperature:** -40° to 100°C

**Environment:** Nema 4/IP65 (when provided with shaft seals)

**Vibration:** 5-2000 Hz

**Shock:** 50G, 11mS duration

**Weight:** 0.575 lbs [260 g]

Check out our website for more detailed specifications, drawings, and installation instructions. [www.avtronencoders.com](http://www.avtronencoders.com)

## SELECTION GUIDE

| AV20 PART NUMBERS AND AVAILABLE OPTIONS             |  |  |  |  |                        |         |  |   |   |   |  |                               |
|---|--|--|--|--|------------------------|---------|--|---|---|---|--|-------------------------------|
|   |  |  |  |  |                        |         |  |   |   |   |  |                               |
| Mount   | PPR*   |  | Line Driver  | Shaft Size   | Connector Options      | Wiring  | Mounting Style   | Face/Bolt Pattern   | Seals   | Channels  | Special Features   |                               |
| AV20  | A- 1<br>C- 25<br>F- 60<br>G- 100<br>H- 120<br>K- 200<br>L- 240<br>M- 250<br>N- 256<br>P- 300<br>E- 360<br>Q- 500<br>R- 512<br>S- 600 | T- 625<br>U- 720<br>W- 1000<br>Y- 1024<br>Z- 1200<br>1- 1250<br>2- 1440<br>3- 2000<br>4- 2048<br>5- 2500<br>6- 2540<br>7- 3600<br>0- Special | 1- 5-28V (7272)<br>2- 5-28V, open collector (7273)<br>4- 5-28V in, 5V out (7272) | 0-Non-std. <u>With Flat</u><br>A- 0,25"<br>B- 0,375"<br>C- 10mm<br><u>Without Flat</u><br>N- 0,25"<br>P- 0,375"<br>R- 10mm | W- 18" cable (pigtail) | A- Side | 1- Sq. Flange 2.06" w/ 1.25" male pilot<br>2- Rnd. Flange 2.0" w/ 1.25" male pilot<br>3- Sq. Flange 2.06" w/ 1.181" female pilot<br>4- Rnd. Flange 2.0" w/ 1.181" female pilot | X- None<br>5- 4x 6-32 @ 2"<br>6- 4x 10-32 @ 1.625"<br>7- 3x 4-40 @ 1.5" | A- Shaft Sealed**<br>B- Bearing Sealed<br>X- None*^ | <u>With Comp.</u><br>A- A, $\bar{A}$ , B, $\bar{B}$<br>Z, $\bar{Z}$ ***<br>B- A, $\bar{A}$ , B, $\bar{B}$<br>D- A, $\bar{A}$<br><u>Without Comp.</u><br>E- A, B, Z<br>F- A, B | 000- None<br>00W- Connector on 18" cable: Use w/ Option "T"- "U"<br>9xx- Specify cable length<br>xx=feet (use w/ Option "W") |                               |
| Connector Options                                   |  |  |  |  |                        |         |  |   |   |   |  |                               |
| Mounted on Encoder                                  |  |  |  |  |                        |         |  |   |   |   |  |                               |
| Mounted on 18" cable (00W)                          |  |  |  |  |                        |         |  |   |   |   |  |                               |
| 10 Pin MS   |  |  |  |  |                        |         |  |   |   |   |  |                               |
| 6 Pin MS  |  |  |  |  |                        |         |  |   |   |   |  |                               |
| 7 Pin MS  |  |  |  |  |                        |         |  |   |   |   |  |                               |
| 8 Pin M12   |  |  |  |  |                        |         |  |   |   |   |  |                               |
| * up to 16,384 PPR available                        |  |  |  | A- w/o plug (std. phasing)   |                        |         |  | E- w/o plug (std. phasing)  |   |   |  | J- w/o plug (std. phasing)    |
| ** recommended, N/A with Mounting Styles "3" & "4". |  |  |  | B- w/o plug (reverse phasing)  |                        |         |  | F- w/o plug (reverse phasing)   |   |   |  | K- w/o plug (reverse phasing) |
| *** N/A with MS 6 or 7 Pin Connector.               |  |  |  | C- w/ plug (std. phasing)  |                        |         |  | G- w/ plug (std. phasing)   |   |   |  | M- w/ plug (std. phasing)     |
| ^^ not recommended for industrial applications      |  |  |  | D- w/ plug (reverse phasing)   |                        |         |  | H- w/ plug (reverse phasing)  |   |   |  | N- w/ plug (reverse phasing)  |
|   |  |  |  |  |                        |         |  |   |   |   |  | T- w/o plug (Turck Pinout)    |
|   |  |  |  |  |                        |         |  |   |   |   |  | U- w/o plug (US Pinout)       |

All dimensions are in inches [millimeters].  
Specifications and features are subject to change without notice.



Nidec-Avtron Makes the Most Reliable Encoders in the World

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