



DYNAPAR™ Sensor Installation Manual

Dynapar™ brand

SERIES RR25

Ag Rate Sensor

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DESCRIPTION

The Dynapar RR25 is a U.S. Patent pending product utilizing Hall-IC sensing technology to provide reliable rate indication for planting, seeding, and spreading machinery. Sealed electronics and simple, rugged construction allow the sensor to be used in washdown environments where corrosive substances such as fertilizer, diesel fuel, and hydraulic fluids are commonly present. The compact size and hub shaft mounting make the sensor ideal for replacing fixed-coupling rate indicators in confined spaces.

KEY FEATURES

- **Magnetic sensor**
- **Sealed Electronics**
- **Hub Shaft Mounting**
- **Corrosion-Resistant Construction**
- **Ag Industry-Specific**

MECHANICAL INSTALLATION

A. GENERAL OVERVIEW

The following instructions are meant to assist in proper installation of the Dynapar brand RR25 rate sensor. The sensor is a speed transducer that when mounted to a rotating shaft, will produce output pulses directly proportional to the shaft speed. The sensor is attached to a rotating shaft using a clamp collar, and can accommodate several different machine shaft diameters up to 1-1/8" by selecting the appropriate bore size (see "Ordering Information" page 3). During installation, certain mechanical attributes associated with the mounting of the sensor must be observed to ensure long operational life.

B. MATING SHAFT

A solid mating shaft is preferred, but a keyway is allowed. The minimum shaft engagement length that allows proper support of the sensor is 1.00". Mating shaft runout (wobble) should be less than .005" TIR for optimal performance and longevity of the sensor.

C. TETHER POINT

Locate the tether slot at a point on the mating machinery that allows sufficient flexibility in the tether and to avoid binding. Sensor cable exit should be pointed in a downward position in relation to the tether, if possible. The tether mount should lie flat with the mating surface.

STEP 1: PREPARATION AND RECOMMENDED TOOLS

Disconnect power from equipment. Ensure proper tools are present, typically:

- 5/32" Hex key
- T20 Torx key

STEP 2: INSPECT MATING SHAFT

Ensure mating shaft is free of any burrs or debris. Recommended mating shaft diameter tolerances should be nominal +0.0000"/-0.0005" and runout TIR less than .005". If the mating shaft is significantly undersized, the clamp collar will "bottom out" before sufficient clamping force is applied, allowing the shaft to slip. Mating shaft engagement length should be minimum 1.00" to ensure proper support of sensor.

MECHANICAL INSTALLATION

STEP 3: INSTALL TETHER ON SENSOR

Remove split-clamp collar from sensor hub. Rotate the tether to the required orientation for the application and install on sensor body using (4) T20 Torx thread-forming screws provided. (See Figure 1) The tether can be installed in 45 degree increments so that the tether and cable exit can be conveniently located.

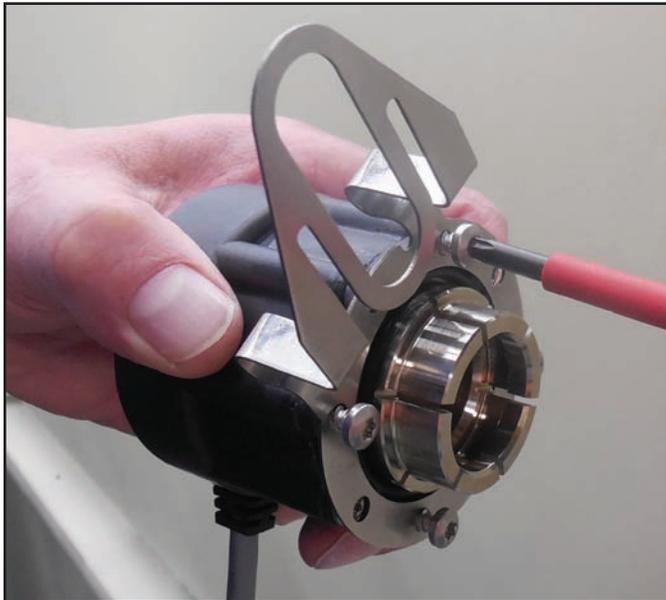


FIGURE 1

STEP 4: INSTALL WASHERS ON TETHER

Select the appropriate nylon shoulder washer for the size bolt being used (1/4", 5/16" or 3/8"). Place the nylon shoulder washer in the Tether slot and press a flat nylon washer over the top. One steel washer is to be used on each side of the nylon washer. (See Figure 2)



FIGURE 2

STEP 5: MOUNT SENSOR TO SHAFT

Loosen clamp collar slightly and re-install on sensor so that the sensor hub slides freely over mating machine shaft. Slide all the way down until the tether rests on the mounting point without stress or bending. Do not tighten clamp collar yet.

STEP 6: SECURE TETHER TO MOUNTING POINT

Rotate the sensor so that the tether is aligned with desired mounting position. Install one steel washer on each side of the nylon washer. Fasten tether arm using supplied 1/4", 5/16", or 3/8" bolt. Ensure no stress or excessive flexing of the tether is present when secured. (See Figure 3)

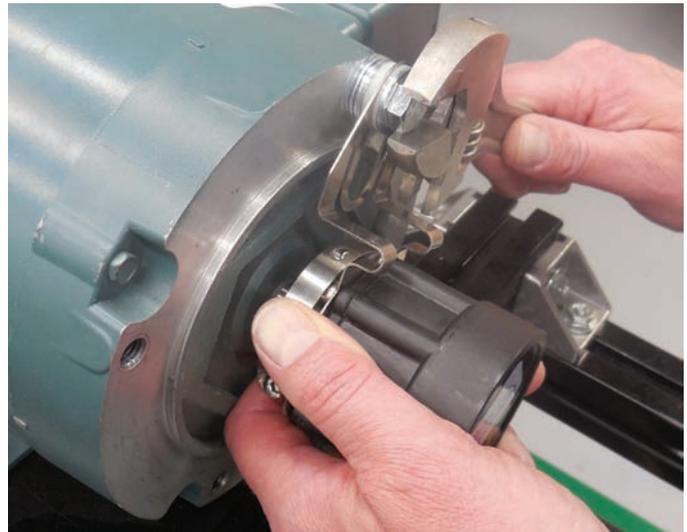


FIGURE 3

STEP 7: TIGHTEN CLAMP COLLAR

Adjust position of sensor on shaft if necessary and tighten clamp collar with 5/32" hex key. (See Figure 4) NOTE: Clamp collar is split type with two fasteners. Ensure both fasteners are tightened securely. This may require rotation of shaft for access.

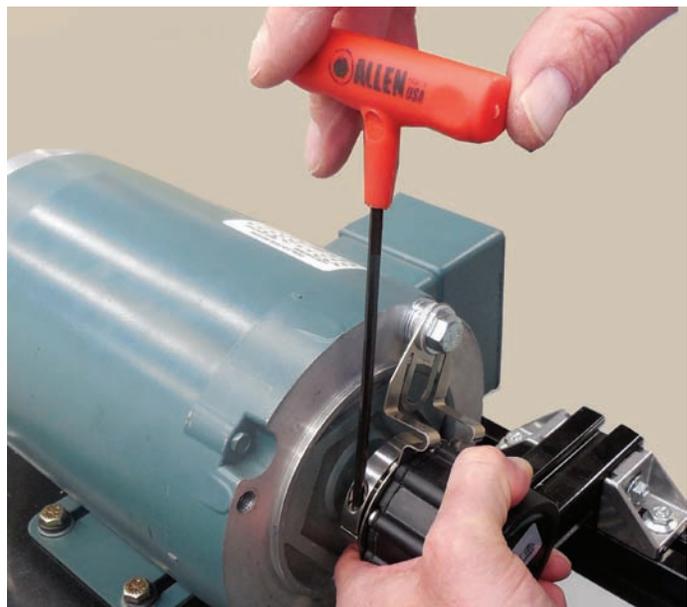


FIGURE 4

STEP 8: PERFORM ELECTRICAL CONNECTION

Ensure machine is still powered down and connect 3-pin keyed connector to mating connector. Route cable away from moving parts and secure, if needed.

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
Pulses per Revolution: 180, 360 or 512
Symmetry: 180° ± 90°

ELECTRICAL

Input Voltage: 5-28VDC (up to 32VDC overvoltage protection)
Current Draw: 50mA Maximum (not including output load)
Output: HD7 Push-Pull or 7273 Open Collector
Termination: Cable, Radial Exit with Connector

MECHANICAL

Housing Material: PBT Thermoplastic Resin
Hub Shaft Material: Stainless Steel
Hub Shaft Bore Diameter: 1" or 1-1/8"
Hub Shaft Bore Tolerance: Nominal +.0005"/+.0015"
Starting Torque: 7 oz-in Maximum
Shaft Fixing: Stainless Steel Split Clamp
Shaft Speed: 500 RPM Maximum
Mating Shaft Length: 1" Minimum
Mating Shaft Runout: .005" TIR Maximum
Mating Shaft Endplay: ±.025" Maximum

ENVIRONMENTAL

Operating Temperature: -20°C to +85°C
Storage Temperature: -40°C to +85°C
Enclosure Rating (electronic components): IP66/IP67
Vibration: 10G, 5-2000 Hz
Shock: 50G, 6ms duration

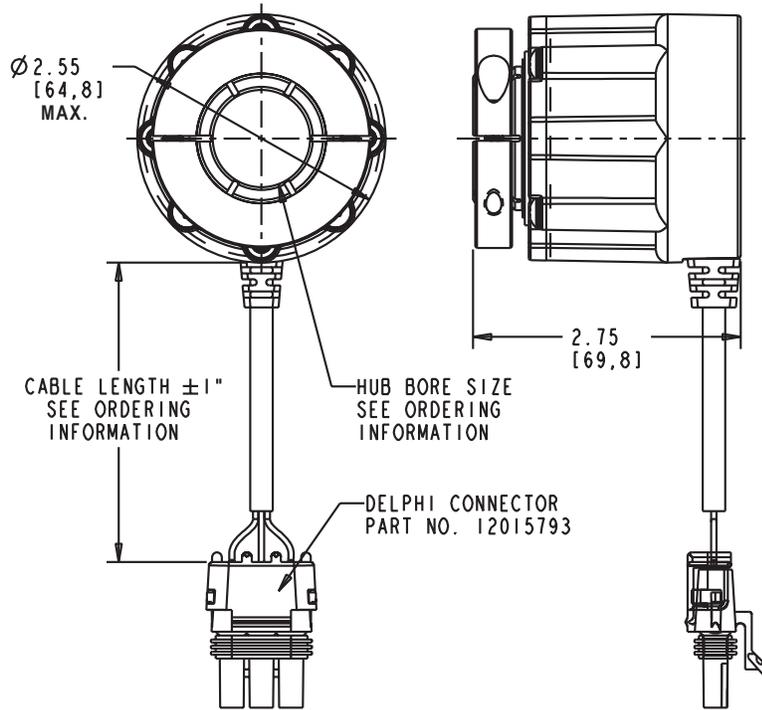
ORDERING INFORMATION

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

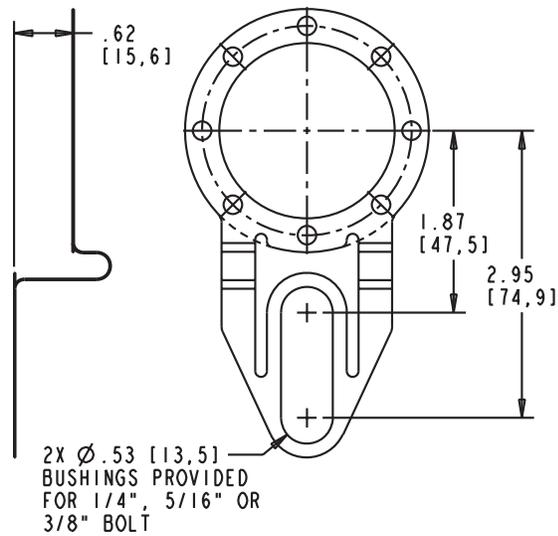
Code 1: Model	Code 2: PPR	Code 3: Hub Bore	Code 4: Output	Code 5: Termination
RR25	□□□□	□	□	□
Ordering Information				
RR25 2.5" Rate Indicator	0180 0360 0512	H 1" J 1-1/8" K Ø3/8" x 0.9"L male shaft extension	0 HD7 type Push-Pull 1 7273 Open Collector	A 18" Radial Cable w/ 3-pin Delphi connector C 36" Radial Cable w/ 3-pin Delphi connector D 60" Radial Cable w/ 3-pin Delphi connector

DIMENSIONS inch [mm]

TOLERANCES: ± .02 [0,5]



STAINLESS STEEL ANTI-ROTATION TETHER



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