

Series 53Z & 53ZK Pickups



- **Speed Range:** zero speed to 20 kHz
- **Squarewave digital outputs**
- **Rugged, mill-duty construction**
- **Compact 5/8" diameter package**

Note: Series 53Z's and 53ZK's are not proximity detectors.

APPLICATION/INDUSTRY

Series 53Z and 53ZK pickups provide a squarewave digital output that is used as a feedback signal for many industrial speed-control applications.

DESCRIPTION

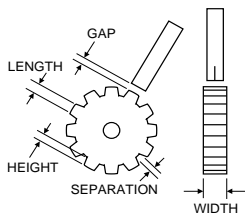
Series 53Z and 53ZK pickups provide a squarewave digital output that is generated by the alternating presence and absence of a ferrous metal target. The 53Z is used with gear teeth. The 53ZK's commonly used targets include gear teeth, slotted discs, shafts with keyways, etc. made of carbon steel, iron, or magnetic stainless steel. These sensors provide constant amplitude pulses down to zero speed. Reliable operation in wet, dirty, high temperature environments makes magnetic pickups a popular selection for many industrial and commercial applications.

FEATURES AND BENEFITS

Advantages of magnetic pickups include

- Speed sensing
- Ideal for inputs to PLC's, instruments, electronic counters, etc.

TYPICAL APPLICATION



Remember to rotate the pickup so that the line on the side is parallel to gear travel.

53Z (gear pickup) Target:

- Pitch:** 20 to 32
- Gap:** 0.005 to 0.015" (0.127 to 0.381 mm)
- Length:** 0.049 to 0.081" (1.24 to 2.06 mm)
- Separation:** 0.049 to 0.081" (1.24 to 2.06 mm)
- Width:** 0.25" (6.35 mm) min.
- Height:** 0.035" (.889 mm) min.

53ZK (keyway pickup) Target:

- Pitch:** 20 max.
- Gap:** 0.005 to 0.030" (0.127 to 0.762 mm)
- Length:** 0.081" (2.057 mm) min.
- Separation:** 0.081" (2.057 mm) min.
- Width:** 0.375" (9.525 mm) min.
- Height:** 0.081" (2.057 mm) min.

Note: The target can be a ferrous gear that falls within minimum dimensions.

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Power Requirements: 5-15 VDC, 15 mA plus load
Weight: 2 oz.
Operating Temperature: -25° to +80°C
Mating Connector: MS3106A-10SL-3S or Dynapar Part No. MCN-N2
Recommended Cable: Belden #9770 or Dynapar Part No. 16002160022

ELECTRICAL CONNECTIONS

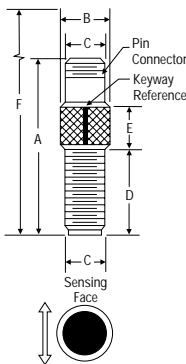
Function	Series 53Z & 53ZK Pin No.	Dyn.#14003340010* Cable Acc'y Color Code
5-15 VDC	A	RED
Signal	B	WHT
Common	C	BLK

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

ELECTRICAL OUTPUT RATINGS

Outputs	Voltage Range	Sink (mA)	Source (mA)	Operating Speed
Current Sink (open collector w/2.0 kΩ pull-ups)	5-15 VDC	25	0.8 mA @ 3.5V output	20 kHz max.

APPROXIMATE DIMENSIONS (IN INCHES/MM)



53Z & 53ZK

- A. 2-9/16" (65.08mm)
 - B. 3/4" (19.05mm)
 - C. 5/8" (15.9mm)
 - D. 1-1/8" (28.6mm)
 - E. 9/16" (14.3mm)
 - F. 4-1/8" (104.8mm)
- Length with mating connector
 Mounting Thread 5/8-18
DO NOT OVERTIGHTEN
 (5 ft. lbs. max.)

Arrows indicate direction of metallic target or gear teeth movement relative to keyway position and mark on barrel.

Gears (For All Dynapar Pickups)



For use with series 50, 52BH, 53Z, and 53ZK pickups. Designed for customer boring and mounting.

Part No.	No. of Teeth	Pitch Dia.	Pitch	Rough Hole Bore	Largest Hole Bore Possible
16002070081	60	3.00"	20	3/8"	1.00"
16002070083	60	3.750"	16	1/2"	1.00"

Ordering Information

Output Waveform	Termination	Model No.
Unidirectional for gear A	MS Pin Connector	53Z
Unidirectional for keyway A	MS Pin Connector	53ZK

Recommended Dynapar brand Gears

Gear	Dia.	Bore	Pitch	PPR	53Z	53ZK
16002070081	3-1/10"	3/8"	20	60	X	X
16002070083	3-7/8"	1/2"	16	60		X
16002070216	5-1/2"	1-1/8"	11	60	X	X
16002070217	5-1/2"	1-3/8"	11	60	X	X
16002070218	5-1/2"	1-5/8"	11	60	X	X
16002600314	5-1/2"	1-7/8"	11	60	X	X
16002600315	5-1/2"	2"	11	60	X	X
16002600316	5-1/2"	2-1/8"	11	60	X	X
16002600317	5-1/2"	2-1/4"	11	60	X	X
16002600318	5-1/2"	2-3/8"	11	60	X	X
16002600319	5-1/2"	2-1/2"	11	60	X	X
16002600320	5-1/2"	2-7/8"	11	60	X	X
16002070219	5-1/2"	1-1/8"	22	120	X	X
16002070220	5-1/2"	1-3/8"	22	120	X	X
16002070221	5-1/2"	1-5/8"	22	120	X	X
16002600307	5-1/2"	1-7/8"	22	120	X	X
16002600308	5-1/2"	2"	22	120	X	X
16002600309	5-1/2"	2-1/8"	22	120	X	X
16002600310	5-1/2"	2-1/4"	22	120	X	X
16002600311	5-1/2"	2-3/8"	22	120	X	X
16002600312	5-1/2"	2-1/2"	22	120	X	X
16002600313	5-1/2"	2-7/8"	22	120	X	X
Key / Keyway			1			X