

LCZ Series

Hall-effect Zero Speed Sensors



DESCRIPTION

The LCZ Series Hall-effect Zero Speed Sensors provide a durable, cost-effective solution in most harsh environments.

The sensor is available in 9,5 mm [3/8 in/0.375 in] and 15,9 mm [5/8 in/0.625 in] diameters, in both 50,8 mm [2.00 in] and 76,2 mm [3.00 in] lengths.

FEATURES

- Low cost
- Omni-directional sensor to target orientation
- Digital output
- Small size
- Low power consumption

The stainless steel package is simple to install and adjust. It does not require rotational orientation.

POTENTIAL APPLICATIONS

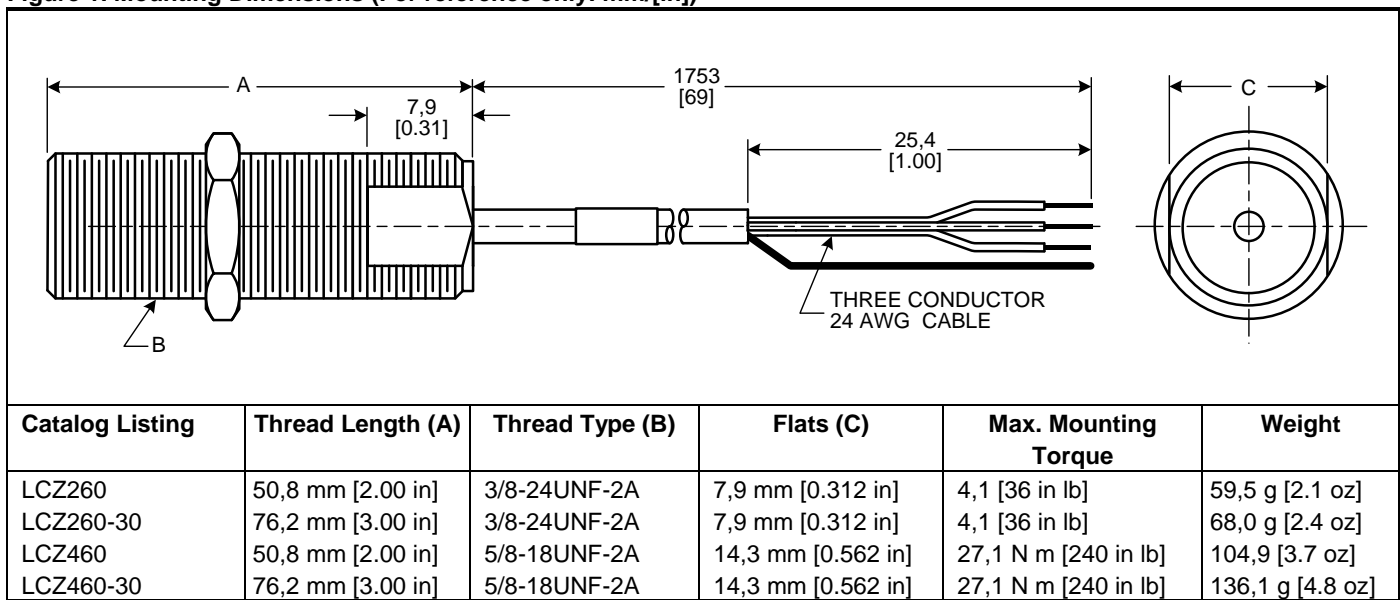
- Industrial process control
- Factory automation
- Rotary applications, such as:
 - Pumps
 - Rollers
 - Mixers
 - Fan speed measurement
 - Transmission
 - Spindles
 - Gear reducer RPM
 - Process speed
 - Synchronization
 - Generator set
 - Compressor speed
 - Dyno testing

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Table 1. Sensor Specifications

Characteristic	Minimum	Maximum	Unit	Condition
Supply voltage	4.5	26	Vdc	–
Supply current	–	20	mA	load = infinity, Vcc = 26
Reverse polarity	30	–	Vdc	–
Output sinking	–	20	mA	0.4 V max. short circuit protected
Voltage low	–	0.4	V	at 30 mA max. sink
Voltage high	–	30	Vdc	–
Duty cycle	20	80	%	within operating gap
Operating frequency	0	15 k	Hz	no orientation required
Output signal rise/fall time	–	4.0	µs	880 Ohm, 20 pF
Dielectric strength	200	–	Vac	<2 mA leakage
Operation gap	–	–	–	at gaps below curve (see Figure 3)
Output impedance	4.7	5.3	kOhm	–
Operating temperature range	-40 [-40]	125 [257]	°C [°F]	–
Storage temperature	–	125 [257]	°C [°F]	–
Sealing	IP68			
Shock	50 G, 11 ms			–
Vibration	15 G, 10 Hz to 2000 Hz			–
Housing material	stainless steel			–
Weight	see Figure 1			–

Figure 1. Mounting Dimensions (For reference only: mm/[in])



Hall Effect Zero Speed Sensor

Figure 2. Equivalent Electrical Schematic

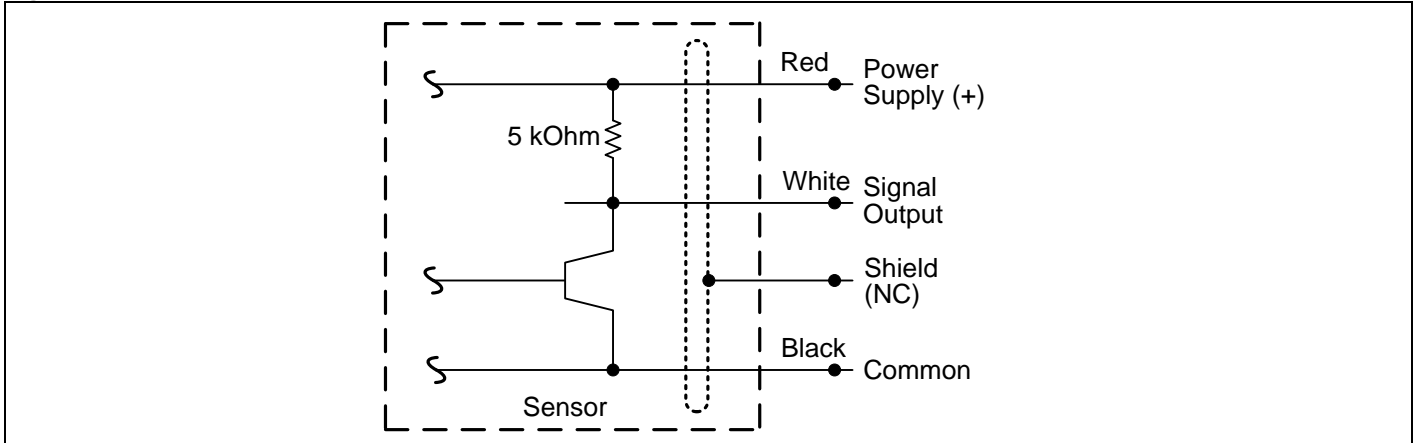


Figure 3. Air Gap Performance Curve

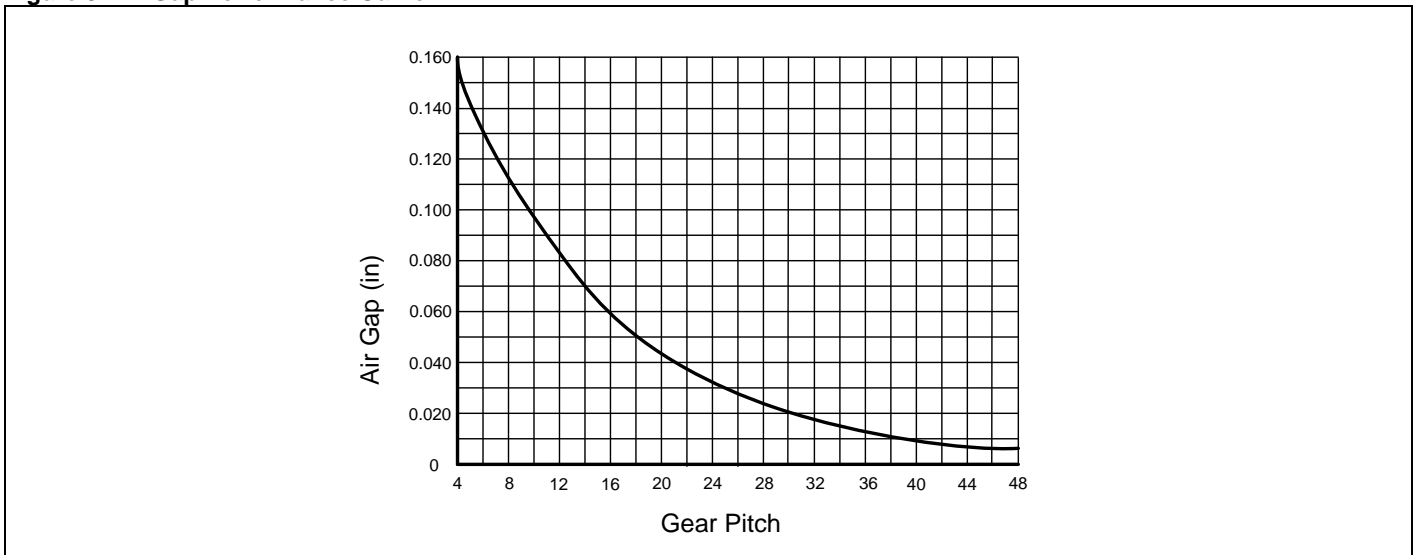


Figure 4. Target Motion

