

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.

- 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

LCZ Series

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 Air Gap Performance Curve)
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 Gs, 11 ms			_
Vibration	15 Gs, 10 Hz to	2000 Hz		-
Housing material	stainless steel	stainless steel –		
Weight	see Mounting D	see Mounting Dimensions		-

MOUNTING DIMENSIONS (For reference only: mm/[in])



Hall Effect Zero Speed Sensor

EQUIVALENT ELECTRICAL SCHEMATIC



AIR GAP PERFORMANCE CURVE







ORDER GUIDE

Catalog Listing	Description
LCZ260	Hall-effect speed sensor, 3/8-24UNF-2A thread, 50,8 mm [2.00 in] length
LCZ260-30	Hall-effect speed sensor, 3/8-24UNF-2A thread, 76,2 mm [3.00 in] length
LCZ460	Hall-effect speed sensor, 5/8-24UNF-2A thread, 50,8 mm [2.00 in] length
LCZ460-30	Hall-effect speed sensor, 5/8-24UNF-2A thread, 76,2 mm [3.00 in] length

🛦 WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

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SNDJ-T4C-G01 Series Double Hall-Effect Speed Sensor



DESCRIPTION

The T4C Hall-effect sensor generates square wave signals proportional to rotary speeds and also provides directional indication.

The T4C consists of two back-biased Hall-effect ICs that are zero-speed capable. The sensor must be oriented to the target using a special orientation sleeve. Zero-speed capabilities allow the T4C to also be used as a proximity switch.

FEATURES

- Back biased differential hall sensor
- Direct sensing of ferrous metal target
- Speed and direction output signals
- Zero speed sensing capability
- Rugged 12 mm [0.47 in] stainless steel housing
- IP68 sealing
- 1,5 mm [0.06 in] sensing range
- Quick connect termination

- Speed and direction monitoring of rotating target
- Over-speed detection
- Monitor shaft rotation
- Detect rotary position of gear or shaft

T4C Series

SENSOR SPECIFICATIONS

Characteristic	Parameter
Supply voltage	11 Vdc to 32 Vdc
Current consumption	20 mA max. (without load)
Signal outputs	1 square wave and 1 direction signal
	Open collector outputs with 10 kOhm pull-up; Imax = -20 mA
	The sensor is able to drive the coil of a relay by using a simple current limiting resistor. No
	additional protection against voltage peaks is needed. Limit values: Isink <70 mA, L <800 mH
Frequency range	0 Hz to 15 kHz
Insulation	Housing, cable shield, and electronic galvanically isolated (500 V/50 Hz/1 min.)
Operating temperature	-20 °C to 100 °C [-4 °F to 212 °F]
Housing	Stainless steel 1.4305.
	Max. allowable pressure applied to the front face: 100 bar
Cable/connector	S variant: with cable PUR, four wires 0.34 mm ² , AWG 22
	C variant: with connector 4 pins/M12 standard
Protection class	Sensor head IP68, cable/entrance IP67, connector IP68 (mated)
Vibration immunity	30 g in the range of 5 Hz to 2000 Hz
Shock immunity	50 g during 20 ms, half-sine wave
Weight	~120 g, including 1 m cable
Air gap	For pole wheel M1 (DP 25,4): 0,1 mm to 0,5 mm [0.004 in to 0.02 in]
	For pole wheel M2 (DP 12,7): 0,1 mm to 1,5 mm [0.004 in to 0.06 in]
Pole wheel	Ferromagnetic toothed wheel, i.e. B. Ust37-2, type 1018 CRS, preferred involute gear form
	Module >(DP 25,4 [1.0 in]), min. tooth width 10 mm [0.4 in], side offset with min. tooth width:
	<0,2 mm [0.008 in], eccentricity <0,2 mm [0.008 in].

NOTICE

INSTALLATION INFORMATION

- The sensor wires must be laid as far as possible from large electrical machines. They must not run parallel with power cables. The maximum permissible cable length is 20 m [65 ft].
- The sensor should be mounted with the middle of the face side over the middle of the pole wheel. Where the pole wheel has teeth or slots and with radial sensor location, the sensor would normally be mounted over the center.
 Dependent upon the wheel width, a degree of axial movement is permissible.
- A solid and vibration-free mounting of the sensor is important.

Double Hall-Effect Speed Sensor



PULSE DIAGRAM



MOUNTING HOLES

WIRING DIAGRAM



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SNDH Series

Quadrature General Industrial Speed and Direction Sensors



DESCRIPTION

The SNDH Series is a dual differential hall sensor that provides speed and direction information using a quadrature output with signals 90° phase shifted from each other. Target direction is determined by output lead/lag phase shifting.

This product is designed for applications where extremely high resolution is required at wide frequency ranges, 0 kHz to 15 kHz, and large air gaps. BiCMOS (bipolar complementary metal-oxide-semiconductor) Hall-effect technology, using advanced digital signal processing for dynamic off-set cancellation, provides enhanced air gap performance and phase shift accuracy over most conditions.

Unique patented (pending) IC (integrated circuit) packaging provides output phase shift tolerancing with enhanced accuracy.

The robust package is automotive under-the-hood grade for most environmental conditions as well as EMI (electromagentic interference) hardened. Multiple connection options, including wire harness and integral connector versions using AMP super seal or AMP Jr. Timer connectors, are available. Package design includes an o-ring seal for pressure applications and a fixed mounting flange.

FEATURES

- Hall-effect magnetic sensing technology
- Dual differential Hall provides enhanced target resolution
- Advanced performance dynamic offset self calibration
- Air gap up to 2 mm [0.08 in]
- Near zero speed
- Automotive under-the-hood packaging integrity
- EMI hardened
- High frequency switching capability (up to 15 kHz)
- -40 °C to 150 °C [-40 °F to 302 °F] continuous operating temperature
- Multiple connector options
- Short circuit protection
- Reverse voltage protection
- Open collector output
- Low jitter output
- O-ring seal

- Steering position
- Tachometers/counters
- Encoders
- Speed and direction of gears and shafts in transmissions, hydraulic motors, pumps, and gear boxes

SNDH Series

TABLE 1. SPECIFICATIONS

Characteristic	Parameter	Note
Sensing air gap	0 mm to 2,0 mm [0 in to 0.08 in]	may achieve larger gaps with testing of actual target
Target tooth width	2,0 mm [0.08 in] (recommended)	other geometry may be suitable
Target slot width	2,0 mm [0.08 in] (recommended)	other geometry may be suitable
Tooth height	>3,0 mm [0.12] (recommended)	shorter tooth heights may limit max. air gap
		performance
Target width	>5,0 mm [0.20] (recommended)	narrow targets may limit axial offsets
Sensor misposition to target	±1,5 mm [0.06]	dependent on target geometry
EMI radiated immunity	100 V/m peak	400 Hz to 2 GHz
EMI bulk current injection	60 mA	20 MHZ to 400 MHz
EMI ESD	16/8 KV air/contact	against the connector (150 pF, 330 Ohm)
EMI fast transient burst	EN61000-4-4 Level 4	—
Operating temperature	-40 °C to 150 °C [-40 °F to 302 °F]	continuous
Thermoshock	-40 °C to 150 °C [-40 °F to 302 °F]	—
Humidity	168 hr	95% humidity at 90 °C [194 °F]
Salt fog	96 hr	DIN IEC 6872-11
Thermosaline dunk	5 dunks	105 °C to 0 °C [221 °F to 32 °F] air to liquid, 5% saline
High temp exposure with	1000 hs at 150 °C [302 °F]	-
power		
Mechanical shock	50 g	—
Vibration	30 g, 10 Hz to 2 kHz	—
Resistance to fluids	general automotive under the hood	—
Supply voltage	4 5 V to 18 V	
Max continuous supply	18 V	
voltage	10 1	
Reverse voltage	-18 V max.	continuous
Current (normal)	13.6 mA	all conditions
Current (max.)	18 mA	all conditions
Short circuit protection	80 mA	_
Output signal type	square wave	two channel, phase shifted by 90°, either channel can lead or lag, push/pull
Duty cycle	50% ±10%	—
Phase shift	90% ±20%	using recommended target tooth/slot
Output high	>Vs - 0.5 V	
Output low	<0.5 V	_
Load current	20 mA max.	each output at all conditions
Output low	<u>≤</u> 0.5 V	
Rise time	10 μs typ.	dependent on load resistor
Fall time	1 μs typ.	
Frequency	0 Hz to 15 kHz	higher frequencies about 10 kHz may be dependent on
-		target geometry and air gap

FIGURE 1. WIRING DIAGRAM



FIGURE 2. SENSOR OUTPUT



FIG. 3. TEMPERATURE/AIR GAP/ FREQUENCY DERATING CURVE



Quadrature Speed and Direction Sensors

MOUNTING DIMENSIONS (For reference only: mm [in])

FIGURE 4. SNDH-T4C-G01



FIGURE 5. SNDH-T4L-G01



FIGURE 6. SNDH-T4P-G01



FIGURE 7. SNDH-T4P-G02



FIGURE 8. GENERAL MOUNTING GEOMETRY



ORDER GUIDE

Catalog Listing	Description
SNDH-T4C-G01	SNDH Series, dual hall speed and position sensor, 4 wire output, connector
SNDH-T4L-G01	SNDH Series, dual hall speed and position sensor, 4 wire output, leadwire
SNDH-T4P-G01	SNDH Series, dual hall speed and position sensor, 4 wire output, pigtail with rectangular connector
SNDH-T4P-G02	SNDH Series, dual hall speed and position sensor, 4 wire output, pigtail with oval connector

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SNDJ-CNT Series Tachometers



DESCRIPTION

Honeywell's CNT Series is the next generation of flexible and powerful tachometer products. Configured as either DIN rain or panel-mounted units, CNT Series products are suitable for the measurement, display, and control of speed in various applications – from diesel engines to windmills and escalators. They sense, monitor, discriminate, protect, diagnose, and boost.

FEATURES

- Converts absolute speed into an analog signal
- Including 2 limits (A/B) with programmable hysteresis
- One changeover relay assigned via binary input to limit (A or B)
- G03 and G04 models with digital display
- · Isolated signal input with automatic trigger level adjustment
- Built in isolated sensor supply with sensor monitoring
- Open collector output of sensor frequency
- Accuracy class 0.05 % for limits and 0.5 % for analog signals
- Configuration and status via Windows software
- Wide tolerance 10 Vdc to 36 Vdc power supply

The G01/G02 and G03/G04 are supplied with full documentation and the CNT Windows software. This allows quick and easy configuration of all operating parameters, unit interrogation of identity and parameters, PC display of current measurement and relay status, and archiving and printing of the configuration.

- Diesel engine start control and overspeed protection
- · Micro turbine measurement and protection
- Turbocharger speed measurement
- · Machine protection in safety critical applications
- Universal speed measurement and indication

SNDJ-CNT Series

SPECIFICATIONS

Parameter	Characteristic	
Measuring range	Lowest: 0 Hz to 1,000 Hz	
	Highest: 0 Hz to 35 kHz	
Accuracy	0.5% referred to the analog output end of range value.	
Analog output	G01/G03: current output 0 mA to 20 mA, resp. 4 mA to 20 mA	
	G02/G04: voltage output 0 V to 10 resp. 2 V to 10 V	
	Load G01: max 500 Ohm corresponding to a max. of 10 V	
	Load G02: min. load 7 kOhm corresponding to a max. of 1.4 mA	
Maximum open circuit voltage	12 V	
Resolution	12 bit corresponding to 1:4096.	
Maximum linearity error	0.1 %	
Temperature drift	±100 ppm/degree K typ., ±300 ppm/degree K max.	
Set points/relay range	See measuring range above	
Hysteresis	for each limit an upper and a lower set point may be set independently	
Change over contact	max. 250 Vac, 1250 VA (dc: see operating instructions)	
Data I/O	Serial EIA RS 232 interface with +5V-CMOS level 3-pole. 3,5 mm stereo headphone connector	
	on the front side, common reference potential with negative pole of sensor supply	
Measuring/response time	The min. measuring time (fix time) is programmable:	
	2/5/10/20/50/100/200/500 ms, 1/2/5 s	
	For input frequencies with a period SHORTER than the fix time:	
	Analog output	
	 Max.: 2 tix time + max. period of the input frequency + 7.5 ms 	
	 Typ.: fix time + 1 period of the input frequency + 7.5 ms 	
	Relay	
	 Max.: 2 fix time + max. period of the input frequency + 10.5 ms 	
	 Typ.: fix time + 1 period of the input frequency + 10.5 ms 	
	For input frequencies with a period LONGER than the fix time:	
	Analog output	
	 Max.: period of the input frequency + 7.5 ms 	
	Relay	
	Max.: period of the input frequency + 10.5 ms	
Sensor input	Input resistance: 30 kOhm	
	Frequency range: (-3 dB): 0.01 Hz/35 kHz	
	• Trigger level: adaptive trigger level from 20 mV to 5 V or 500 mV to 5 V (factory configuration)	
- <u>-</u>	peak depending on the amplitude of the input signal	
Sensor supply	Built-in sensor power supply: +14 V, max 35 mA, short-circuit proof built-in pull up	
	(+14 V) and pull-down (0 V) resistor 820 Ohm for connection of two-wire transmitters or daisy	
	chaining of CNTs	
Sensor monitoring	• Powered 2 and 3 wire sensors: min. and max. current consumption values are selectable in	
	the range	
	U.5 mA to 25 mA. Sensors with consumption below imin. or above imax. will be signaled as	
	detective	
	Electromagnetic/VH sensors: Open circuit state of sensors. This supervision runs permanently.	
	Pethianenny Poth monitoring functions can be quitched off via the configuration activiate	
Open collector output	Bour momentum functions can be switched off via the configuration software Calvanically concreted output of concert frequency.	
Piper inpute	Gaivanically separated output of sensor inequency.	
Dinary inputs	For external selection between two sets (A/B) of programmable relay control and acknowledge	
	runctions. (No external pull up needed) low active : $U < +1.5 V$ high (open) : $U > +3.5 V$	

Tachometers

SPECIFICATIONS (continued)

Parameter	Characteristic	
Environmental	KUE according to DIN 40 040	
	 Operating temperature: -40 °C to 85 °C [-40 °F to 185 °F] 	
	 Storage temperature: -40 °C to 90 °C [-40 °F to 194 °F] 	
	• Relative humidity up to 75% average over one year period, up to 90% max.	
	for 30 days	
Power supply	10 Vdc to 36 Vdc, power consumption max. 3 W	
Insulation	Galvanic separation between power supply, current output and the sensor power	
	supply. Isolation 700 Vdc/500 Vac. Relay contact isolation: 1500 AC	
Electromagnetic compatibility (EMC)	Radiation in accordance with international standards and EN 50081-2	
	 Immunity in accordance with international standards and EN 50082-2 	
	Conducted emissions: CISPR 16-1, 16-2 Radiated emissions: EN 55011	
	Electrostatic discharge: IEC 61000-4-2 Electromagnetic fields: IEC 61000-4-3	
	Conducted fast transients: IEC 61000-4-4	
	Conducted slow transients: IEC 61000-4-5	
	Conducted high frequency: IEC 61000-4-6	
	Pulse modul. elec. field: ENV 50140	
	Power frequency magnetic field: IEC 1000-4-8	
Standards	• EN 50155	
	GL/Germanischer Lloyd	
	 Meets UL requirements - certification available upon request 	
Rail	Rail DIN 4622713 (EN 50022) or mounting plate to DIN 43660 (46121)	
Housing	Protection class IP40, Terminal IP20	
Terminals	See operating instructions	
Weight	G01/G02: 150 g [5.29 oz]	
	G03/G04: 210 g [7 41 oz]	

DIMENSIONS (For reference only. mm/[in])



ORDER GUIDE

Catalog listing	Description
G01	One channel tachometer with relay and 0 mA/4 mA to 20 mA output
G02	One channel tachometer with relay and 0 V/2 V to 10 V output
G03	One channel tachometer with relay and 0 mA/4 mA to 20 mA output, with display
G04	One channel tachometer with relay and 0 V/2 V to 10 V output, with display

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SNDJ-H3*-GO* Series Hall-Effect Zero-Speed Sensors



DESCRIPTION

The H3C and H3L series Hall-effect speed sensors are designed for use with a ferromagnetic gear or pole wheel to generate impulse frequencies proportional to the speed of the target.

FEATURES

- Back biased hall sensor
- Direct sensing of ferrous metal target
- Zero speed capability
- Rugged 12 mm [0.47 in] and 5/8 in [15,88 mm] stainless steel housing
- IP68 sealing
- 1,5 mm [0.06 in] sensing range
- Preleaded cable of connector versions available

The sensors are capable of zero speed and rotational orientation is independent of sensor function.

- High speed gear tooth sensing
- Over-speed detection
- Monitor shaft rotation
- Detect rotary position of gear or shaft
- Position sensing of any ferrous target

SNDJ-H3*-G0*Series

SENSOR SPECIFICATIONS

Characteristic	Parameter		
Supply voltage	8 Vdc to 25 Vdc		
Current consumption	10 mA max. (without load)		
Signal outputs	Square wave signal from NPN output transistor with 2.7 kOhm pull-up, dc-coupled to the supply		
	(negative pole = reference voltage)		
	25 mA max. load		
	Output voltage HI: power supply voltage		
	Output voltage LO: <0.5 Volt @ I = 25 mA		
Frequency range	0 Hz to 15 kHz		
Insulation	Housing and electronics are galvanically isolated (500 V/50 Hz/1 min.)		
Operating temperature	-20 °C to 100 °C [-4 °F to 212 °F]		
Housing	Stainless steel 1.4305. Dimensions per drawings.		
Cable/connector	L version: PUR cable, three conductor 0.34 mm ² [0.013 in ²](AWG 22)		
	C version: Euro M12 thread 4-pin connector		
Protection class	Sensor head IP68, cable/entrance IP67, connector IP68 (mated)		
Vibration immunity	30 g in the range 5 Hz to 2000 Hz		
Shock immunity	50 g during 20 ms, half-sine wave		
Weight	L version: ~120 g, including 1 m [39.37 in] cable		
	C version: ~80 g		
Air gap	For pole wheel M1 (DP 25,4): 0,3 mm to 0,5 mm [0.012 in to 0.02 in]		
	For pole wheel M2 (DP 12,7): 0,3 mm to 1,5 mm [0.012 in to 0.06 in]		
Pole wheel	Ferromagnetic toothed wheel, i.e. B. USt37-2, type 1018 CRS, preferred involute gear form		
	Module (DP 25.4 [1.0 in]), min. tooth width 6 mm [0.24 in], side offset with min. tooth width:		
	<0,2 mm [0.008 in]		

NOTICE

INSTALLATION INFORMATION

- The sensor wires must be laid as far as possible from large electrical machines. They must not run parallel with power cables. The maximum permissible cable length is 20 m [65 ft].
- Using radial or axial mounting, the sensor should be mounted with the center of the sensor face over the center of the gear teeth or targets. Using radial sensor mounting, some axial movement is permissible.
- A solid and vibration-free mounting of the sensor is important.

Hall-Effect Zero-Speed Sensors



MOUNTING DIMESIONS (For reference only) mm [in]

WIRING DIAGRAM



A WARNING

PERSONAL INJURY

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Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

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SNDJ-T4C-G01 Series Double Hall-Effect Speed Sensor



DESCRIPTION

The T4C Hall-effect sensor generates square wave signals proportional to rotary speeds and also provides directional indication.

The T4C consists of two back-biased Hall-effect ICs that are zero-speed capable. The sensor must be oriented to the target using a special orientation sleeve. Zero-speed capabilities allow the T4C to also be used as a proximity switch.

FEATURES

- Back biased differential hall sensor
- Direct sensing of ferrous metal target
- Speed and direction output signals
- Zero speed sensing capability
- Rugged 12 mm [0.47 in] stainless steel housing
- IP68 sealing
- 1,5 mm [0.06 in] sensing range
- Quick connect termination

- Speed and direction monitoring of rotating target
- Over-speed detection
- Monitor shaft rotation
- Detect rotary position of gear or shaft

T4C Series

SENSOR SPECIFICATIONS

Characteristic	Parameter		
Supply voltage	11 Vdc to 32 Vdc		
Current consumption	20 mA max. (without load)		
Signal outputs	1 square wave and 1 direction signal		
	Open collector outputs with 10 kOhm pull-up; Imax = -20 mA		
	The sensor is able to drive the coil of a relay by using a simple current limiting resistor. No		
	additional protection against voltage peaks is needed. Limit values: Isink <70 mA, L <800 mH		
Frequency range	0 Hz to 15 kHz		
Insulation	Housing, cable shield, and electronic galvanically isolated (500 V/50 Hz/1 min.)		
Operating temperature	-20 °C to 100 °C [-4 °F to 212 °F]		
Housing	Stainless steel 1.4305.		
	Max. allowable pressure applied to the front face: 100 bar		
Cable/connector	S variant: with cable PUR, four wires 0.34 mm ² , AWG 22		
	C variant: with connector 4 pins/M12 standard		
Protection class	Sensor head IP68, cable/entrance IP67, connector IP68 (mated)		
Vibration immunity	30 g in the range of 5 Hz to 2000 Hz		
Shock immunity	50 g during 20 ms, half-sine wave		
Weight	~120 g, including 1 m cable		
Air gap	For pole wheel M1 (DP 25,4): 0,1 mm to 0,5 mm [0.004 in to 0.02 in]		
	For pole wheel M2 (DP 12,7): 0,1 mm to 1,5 mm [0.004 in to 0.06 in]		
Pole wheel	Ferromagnetic toothed wheel, i.e. B. Ust37-2, type 1018 CRS, preferred involute gear form		
	Module ≥(DP 25,4 [1.0 in]), min. tooth width 10 mm [0.4 in], side offset with min. tooth width:		
	<0,2 mm [0.008 in], eccentricity <0,2 mm [0.008 in].		

NOTICE

INSTALLATION INFORMATION

- The sensor wires must be laid as far as possible from large electrical machines. They must not run parallel with power cables. The maximum permissible cable length is 20 m [65 ft].
- The sensor should be mounted with the middle of the face side over the middle of the pole wheel. Where the pole wheel has teeth or slots and with radial sensor location, the sensor would normally be mounted over the center.
 Dependent upon the wheel width, a degree of axial movement is permissible.
- A solid and vibration-free mounting of the sensor is important.

Double Hall-Effect Speed Sensor



PULSE DIAGRAM



MOUNTING HOLES

WIRING DIAGRAM



Honeywell Sensing and Control 3

A WARNING

PERSONAL INJURY

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ZH10 Series Hall-effect Zero Speed

DESCRIPTION

Sensors

The ZH10 Hall-effect Speed Sensor Sensors provide a durable, cost-effective solution in most harsh environments.

The sensor is available in a 11,9 mm [15/32 in/0.46875 in] diameter, in a 25,4 mm [1.00 in] length.

FEATURES

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

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

- 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

ZH10 Series

SENSOR SPECIFICATIONS

Characteristic	Minimum	Maximum	Unit	Condition
Supply voltage	4	24	Vdc	-
Supply current	_	6	mA	-
Output current	_	30	mA	short circuit protected
Output on voltage	_	0.6	Vdc	at 25 mA load
Output configuration	-	-	_	open drain MOFSET
Voltage low	_	0.4	V	at 30 mA max. sink
Voltage high	_	30	Vdc	-
Target orientation	-	-	_	omnidirectional
Duty cycle	35	65	%	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 Air Gap Performance Curve)
Output impedance	4.7	5.3	kOhm	-
Operating temperature range	-40 [-40]	100 [212]	°C [°F]	-
Storage temperature	_	125 [257]	°C [°F]	-
Sealing	IP67	IP67		-
Shock	50 Gs, 11 ms		_	
Vibration	15 Gs, 10 Hz to	2000 Hz	_	
Housing material	aluminum			-

MOUNTING DIMENSIONS (For reference only: mm/[in])



Hall Effect Zero Speed Sensor

EQUIVALENT ELECTRICAL SCHEMATIC



AIR GAP PERFORMANCE CURVE



TARGET MOTION



Catalog Listing ZH10

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