Model 631 HE

Vishay Spectrol

Single Turn Bushing Mount Hall Effect Sensor in Size 09 (22.2 mm)

FEATURES

- Accurate linearity down to: ± 0.5 %
- All electrical angles available up to: 360° (no dead band)
- Long life: over 20M cycles
- Non contacting technology: Hall effect
- Model dedicated to all applications in harsh environments
- Robust tool machined aluminum housing
- Compliant to RoHS directive 2002/95/EC

RoHS COMPLIANT

ELECTRICAL SPECIFICATIONS

PARAMETER	STANDARD	SPECIAL
Electrical Angle	90°, 180°, 270°, 360°	Any other angle upon request
Linearity	± 1 %	± 0.5 %
Supply Voltage	5 V_{DC} ± 10 %	Other upon request
Supply Current	10 mA typical	16 mA for PWM output
Output Signal	Analog ratiometric 10 % to 90 % of V_{supply} or PWM 10 % to 90 % duty cycle	Other upon request
Over Voltage Protection	+ 20 V_{DC}	
Reverse Voltage Protection	- 10 V_{DC}	
Load Resistance Recommanded	Min. 1 kΩ for analog output and PWM output	
Hysteresis	< 0.2 %	

MECHANICAL SPECIFICATIONS

PARAMETER		
Mechanical Travel	360° continuous	
Bearing Type	Sleeve bearing	Ball bearing upon request
Standard	IP 50; other on request	
Weight	20 g ± 2 g	

ORDERING INFORMATION/DESCRIPTION

631HE	0	A	1	W	A	1S22	XXXX	BO 10	e1
MODEL	FEATURES	LINEARITY	ELECTRICAL ANGLE	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST	PACKAGING	LEAD FINISH
	0: Continuous rotation and antirotation pin **1**: Continuous rotation and no antirotation pin	**A**: ± 1 % **B**: ± 0.5 %	**1**: 90° **2**: 180° **3**: 270° **4**: 360° **9**: Other angles	**W**: Wires **Z**: Custom	**A**: Analog CW **B**: Analog CCW **C**: PWM CW **D**: PWM CCW **Z**: Other output	**0**: 6 mm **1**: 6.35 mm **2**: 3.175 mm **9**: Special **P**: Plain **S**: Slotted **Z**: Other type		Box of 10 pieces	

Shaft length from mounting face 22 mm to 72 mm max. per step of 5 mm

SAP PART NUMBERING GUIDELINES

631HE	1	B	9	Z	C	0P27	XXXX
MODEL	MECHANICAL FEATURES	LINEARITY	ELECTRICAL ANGLE	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST

For technical questions, contact: sfer@vishay.com

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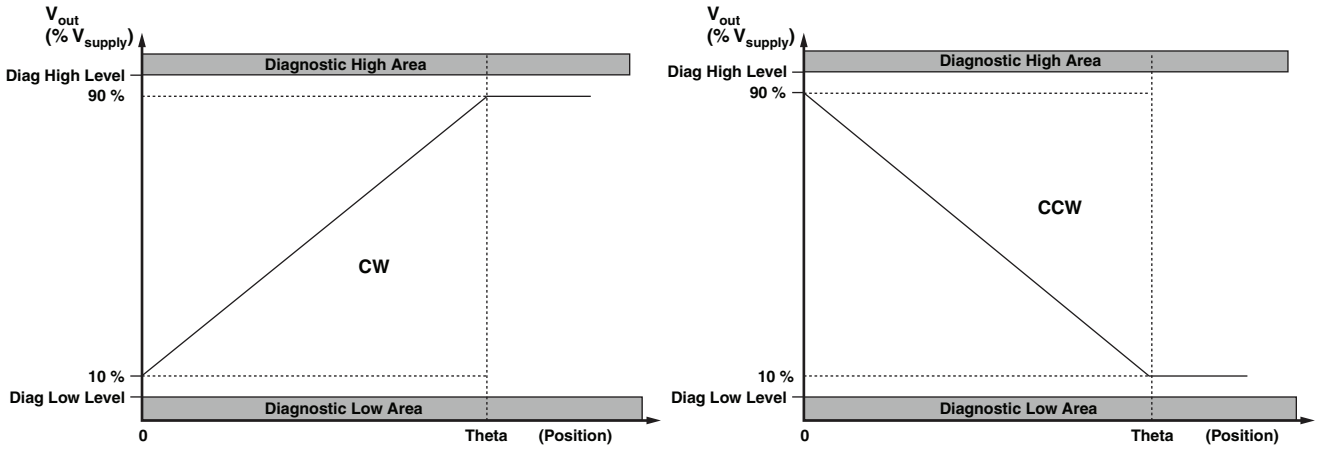
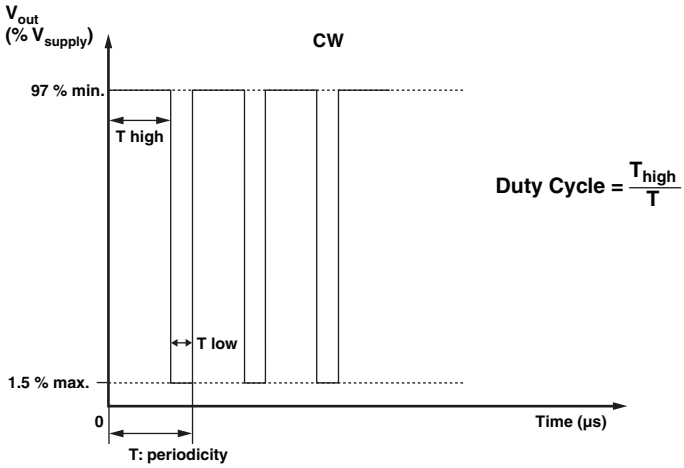
Revision: 12-Apr-10

V_{OUT} ANALOG

Operating Temperature	85 °C	125 °C
Diagnostic High Level	96 % min.	96 % min.
Diagnostic Low Level	2 % max.	4 % max.

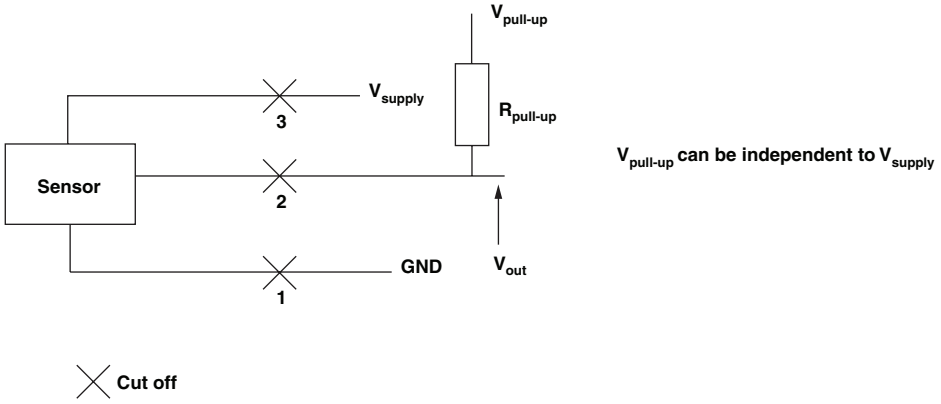


V_{OUT} PWM



DIAGNOSTIC MODES

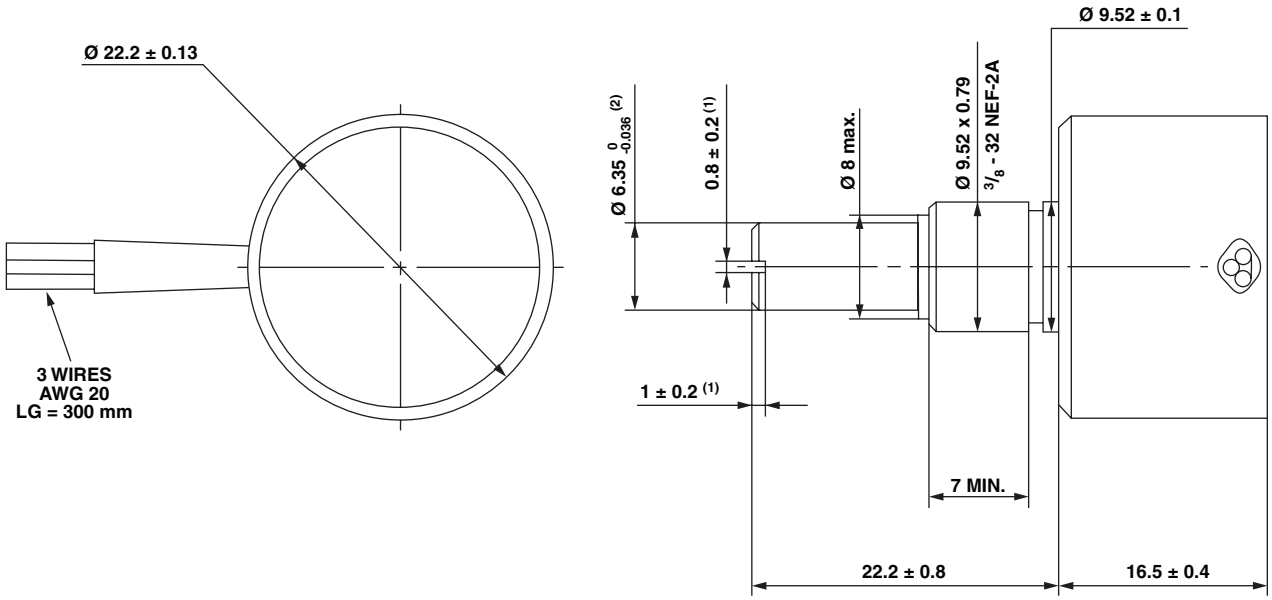
FAILURE	V_{out} Analog $R_{pull-up}$	V_{out} Analog $R_{pull-down}$	V_{out} PWM $R_{pull-up}$ = 1 kΩ $V_{pull-up} = V_{supply}$ = 5 V
1: Broken GND	Diagnostic high area	Diagnostic low area	> 97 % V_{supply} without modulation
2: Broken V_{out}	Diagnostic high area	Diagnostic low area	> 97 % V_{supply} without modulation
3: Broken V_{supply}	Diagnostic high area	Diagnostic low area	> 97 % V_{supply} without modulation
Over Voltage V_{supply} > 7 V	Diagnostic high area	Diagnostic low area	> 97 % V_{supply} without modulation
Under Voltage V_{supply} < 2.7 V	Diagnostic high area	Diagnostic low area	> 97 % V_{supply} without modulation

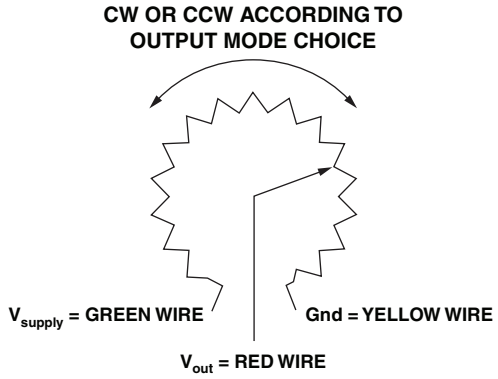


ENVIRONMENTAL SPECIFICATIONS

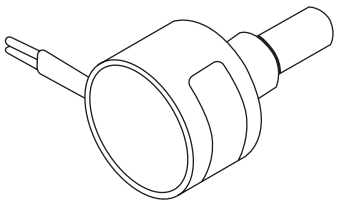
Vibrations	20 *g* from 10 Hz to 2000 Hz
Shocks	3 shocks/axis; 50 *g* half a sine 11 ms
Operating Temperature Range	- 45 °C; + 125 °C
Life	20M of cycles
Rotational Speed (Max.)	120 RPM
Immunity to Radiated Electromagnetic Disturbances	200 V/m 150 kHz/1 GHz
Immunity to Power Frequency Magnetic Field	200 A/m 50 Hz/60 Hz
Radiated Electromagnetic Emissions	30 MHz/1 GHz < 30 dB µV/m
Electrostatic Discharges	Contact discharges: ± 4 kV Air discharges: ± 8 kV
Materials	
Housing	Aluminum anodized
Shaft	Stainless steel
Output	3 lead wires
Bushing Mount Hardware	
Lockwasher Internal Tooth	Steel nickel plated
Panel Nut	Brass nickel plated

DIMENSIONS in millimeters





VIEWED FROM SHAFT



Dimensions in millimeter
Delivered with nut and washer

Notes
(1) For version slotted shaft
(2) For shaft type "1"

MARKING	
Unit Identification	Manufacturer's name and complete sap part reference, date code, and wiring correspondance: colors versus connections.

Disclaimer

All product specifications and data are subject to change without notice.

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