

ACW4 PWM

PWM ABSOLUTE SINGLE TURN MODULAR SENSOR

Sensata-BEI Sensors' ACW4 sensors provide absolute single turn measurement with a PWM output in an over-molded, two-part modular design that offers flexibility and protection from the environment.



Features

- With its two-part design, the ACW4 absolute single-turn offers maximum flexibility for installation
- Rugged and excellent resistance to shock and vibration
- Robust, proven magnetic technology
- Environmentally resistant, IP 67 standard (IP69K option)
- Extended operating range from -40° C to 85° C
- Uses universal supply 5 Vdc or 11 to 30 VDC – PWM Output
- Available Resolution up to 12 bits per revolution
- Variety of magnet holders available

Applications

- Factory Automation
- Process Automation



SPECIFICATIONS

Mechanical

Terminations	PVC cable
Housing	Macromelt PA638
Weight	0,150 kg

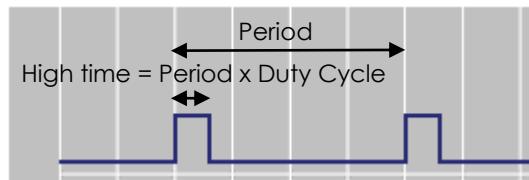
Electrical

Electrical Angle	360°
Output Function	PWM 1 kHz, 10% to 90% Duty Cycle
Minimal Cycle Time	1ms
Resolution	Single –turn, 12 bits
Accuracy	+/-0.3% on 360°
Repeatability	+/-0.1% on 360°
Supply Voltage	5Vdc, or 11 to 30 Vdc
Start-up	< 1s
Response time	< 10 ms
Recommended Load	> 10 kOhms
Current Requirements	< 40mA
Protection	Overvoltage Protection: Yes Reverse Polarity Protection: Yes Short Circuit Protection: Yes
EMC	IEC 61000-4-2 Electrostatic discharge (ESD) 4 kV, 8 kV IEC 61000-4-3 Electromagnetic fields 10 V/m (80MHz - 1GHz), 3V/m (1.4GHz - 2GHz), 1V/m (2GHz - 2.7GHz) IEC 61000-4-4 Electrical fast transients (burst) 1 kV IEC 61000-4-6 Conducted disturbances, induced by RF-fields 10 Veff.

PWM Output

Our PWM mode is defined with the following characteristics :

Supply	5-30Vdc
PWM frequency	1kHz
Duty cycle	10 to 90% (special duty cycle range on demand, for example 5% to 95%, consult us)
Output voltage	Minimum high level = Vcc-2,5Vdc.

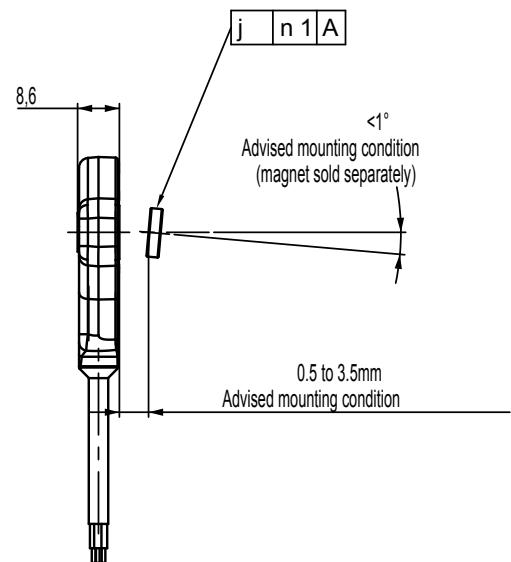
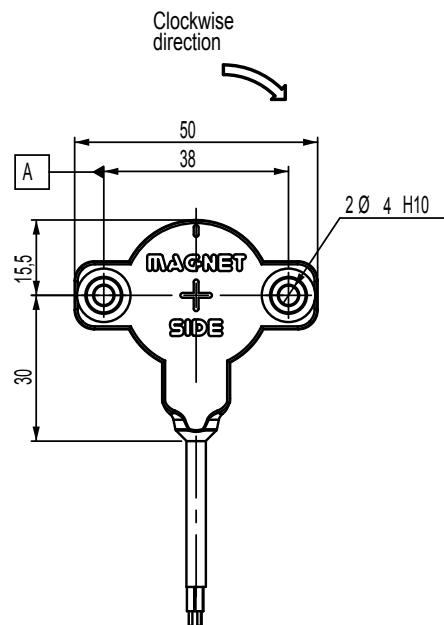
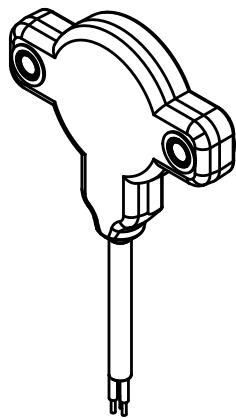


PWM output is highly linear and not subject to time delays. This makes it suitable for high speed applications and particularly in areas which may be subject to electrical interference. As data is time dependent, variation in voltage supply, data cable distances and subsequent circuitry have no appreciable effect on the data quality.

DIMENSIONS

All Dimensions are in millimeters.

Shaft system with magnet to be ordered separately (see Accessories).



CONNECTIONS

Function	Vcc	0V	PWM Out	Ground
Color	Brown BN	White WH	Green GN	Shield

NOTES

Stray magnetic fields can interfere with accuracy and repeatability of the signal.

ORDERING OPTIONS

Example : ACW4_00//5LP1//00360//L3R020

(Contact the factory for special versions, ex : dimensions, connections...)

Family	ACW4	-	00	//	5LP	-	1	//	00360	//	L3	-	R020
ACW4:	Absolute Single-Turn Sensor												
Shaft Ø													
00: Modular													
Supply/Output Stage													
5LP: 11 to 30 Vdc													
2LP: 5Vdc +/- 5%													
PWM 1 kHz, 10% to 90% duty cycle													
Direction													
1: CW, Clockwise positive													
2: CCW, Counterclockwise positive													
Range													
00360: 360° degrees													
Connection													
L3: 3 conductor PVC cable													
Connection Orientation													
R020: Radial cable 2m long													

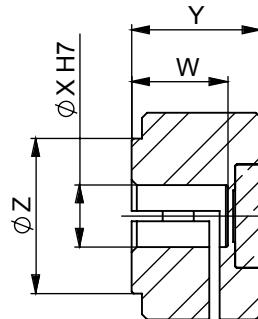
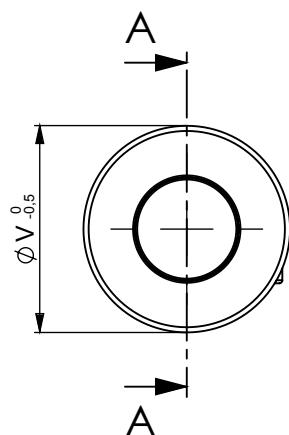
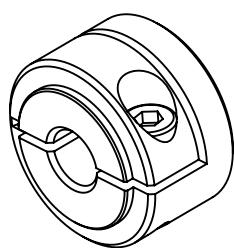


ACCESSORIES

Female magnet support + Magnet 8810/013

Ordering p/n : **M9105/Kxx**

KXX: Where XX is the shaft mounting diameter in mm. Standards are 06, 08, 10, 11, and 14 mm. i.e M9105/K10 mounts to a 10 mm shaft.

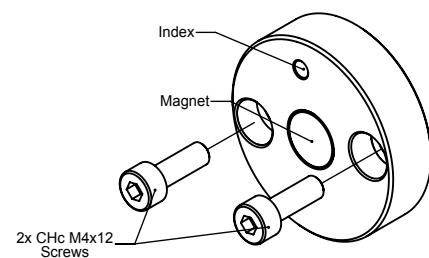
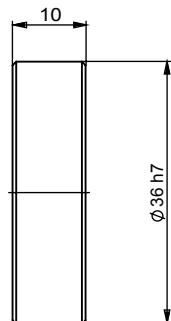
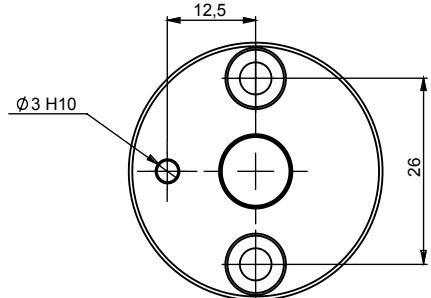


SECTION A-A

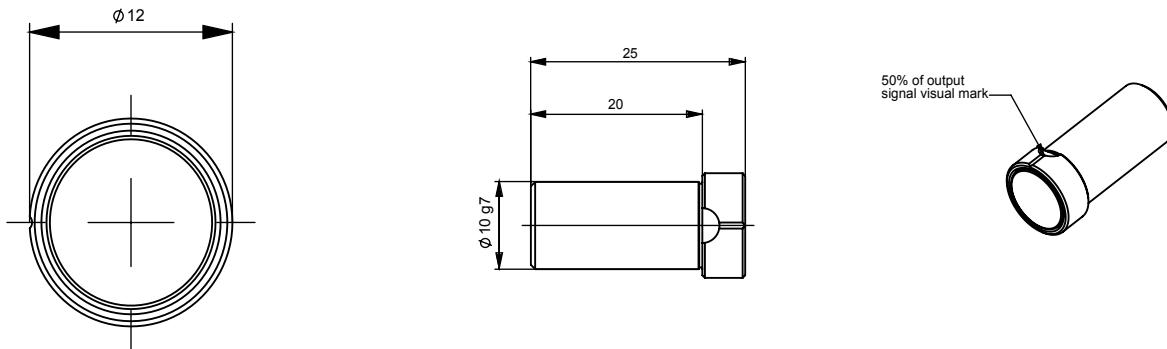
	M9105/K06	M9105/K08	M9105/K10	M9105/K11	M9105/K14
X	06 H7	08 H7	10 H7	11 H7	14 H7
V	20	20	26	26	29
W	9,3	9,3	10	10	10
Y	12,5	12,5	14	14	14
Z	15	15	15	15	18

Frontal magnet support + Magnet 8810/013

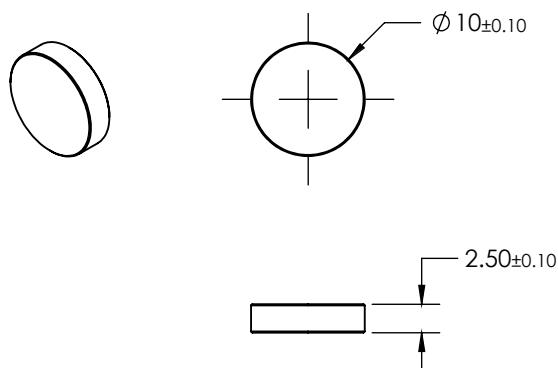
Ordering p/n : **M9105/F26**



Male magnet support + Magnet 8810/013
 Ordering p/n : **M9105/M10-01**



Magnet
 Ordering p/n : **8810/013**



Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. **HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN.** SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

Copyright © 2019 Sensata Technologies, Inc.

No. 02314-001 Rev.02/28/19

www.sensata.com

CONTACT US

Americas

+1 (800) 350 2727
sales.beisensors@sensata.com

EMEA

position-info.eu@sensata.com

+33 (3) 88 20 8080

Asia Pacific

sales.isasia@list.sensata.com

China +86 (21) 2306 1500

Japan +81 (45) 277 7117

Korea +82 (31) 601 2004

India +91 (80) 67920890

Rest of Asia +886 (2) 27602006
 ext 2808