

| TCW4 ANALOG

ANALOG ABSOLUTE MULTI-TURN MODULAR SENSOR

Sensata-BEI Sensors' TCW4 sensors provide absolute multi-turn measurement with analog outputs in an over-molded, two-part modular design that offers flexibility and protection from the environment.



Features

- With its two-part design, the TCW4 absolute multi-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 -20° C to 85° C
- Uses universal supply 11 to 30 VDC – Analog output
- Available Resolution up to 12 bits per turn with up to 16 bits of turns counting
- Variety of magnet holders available

Applications

- Factory Automation
- Process Automation



SPECIFICATIONS

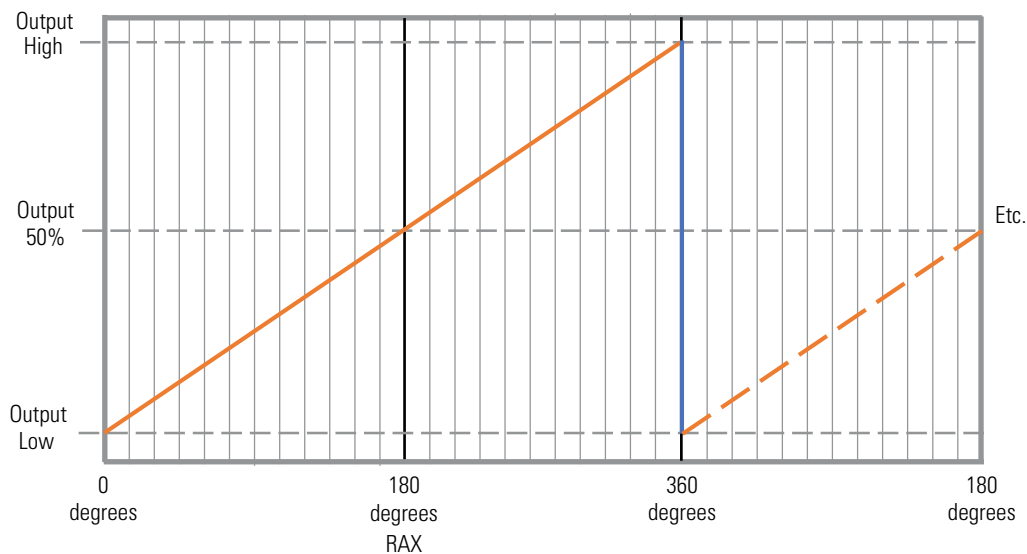
Mechanical

Terminations	PVC Cable
Housing	Macromelt PA638
Weight	0,150 kg

Electrical

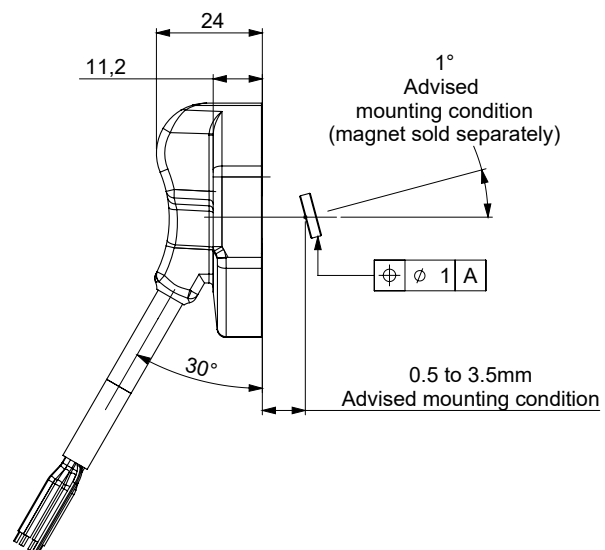
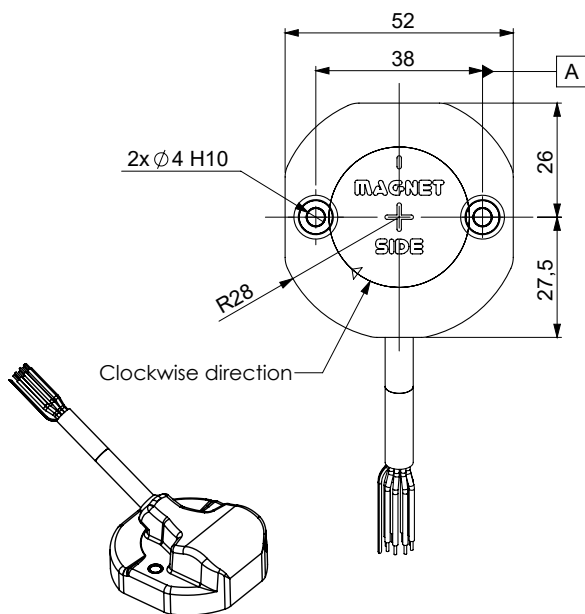
Electrical Angle	3600°
Output Function	0– 10 Vdc, 0.5 to 4.5 Vdc, or 4 – 20 mA
Minimal Cycle Time	1ms
Resolution	Multi-turn, 12 bits per turn with up to 16 bits of turns counting
Accuracy	+/-0.3% on 360°
Repeatability	+/-0.1% on 360°
Supply Voltage	11 - 30 Vdc or 15-30 Vdc
Start-up	< 1s
Response time	< 10 ms (5L2 and 3L1 electronics), <1ms (All other electronics)
Recommended Load	> 10 kOhms (voltage out), 500 Ohms (current out)
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.

Typical Output



DIMENSIONS

All Dimensions are in millimeters.
Shaft system with magnet to be ordered separately (see Accessories).



CONNECTIONS

Function	Vcc	0V	Analog Out	RAZ Reset	Direction	Ground
Color	Brown BN	White WH	Green GN	Blue BU	Red RD	Shield



NOTES

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



ORDERING OPTIONS

Example : TCW4_00//3L13//03600// L5D020

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

	TCW4	00	//	3L1	3	//	03600	//	L5	D020
Family										
TCW4: Absolute Multi-turn Sensor										
Shaft Ø										
00: Modular										
Supply / Output Stage										
3L1: 15 to 30 Vdc, 0-10V Output										
5L2: 11 to 30 with 0.5 to 4.5 Vdc Output										
3L3: 15 to 30 Vdc, 4 – 20 mA Output										
Direction										
3: with direction input										
Range										
03600: 3600° range										
Connection										
L5: 5 Conductor PVC Cable										
Connection Orientation										
D020: Diagonal cable 2m long										

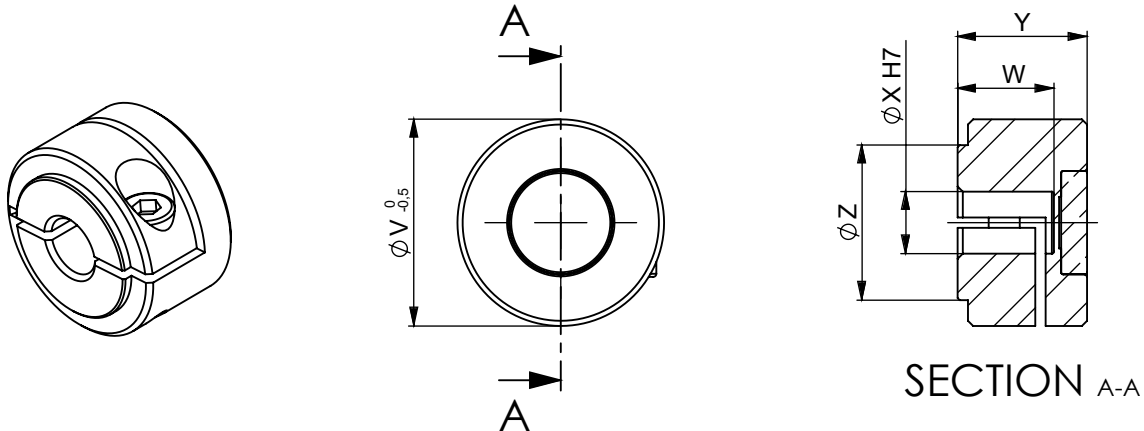


ACCESSORIES

Female magnet support + Magnet 8810/013

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

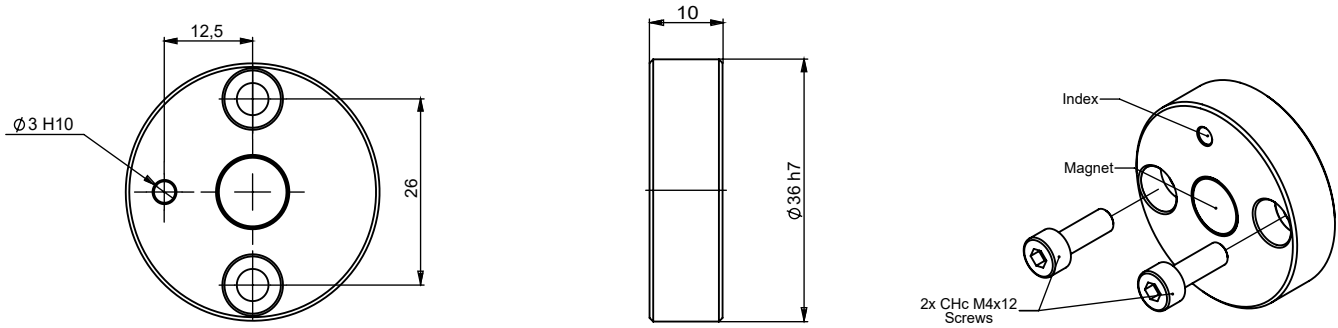
KXX: Where XX is the shaft mounting diameter in mm. Standards are 06, 08, 10, 11, and 14 mm. i.e M9105/K10 mounts to a 10 mm shaft.



	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

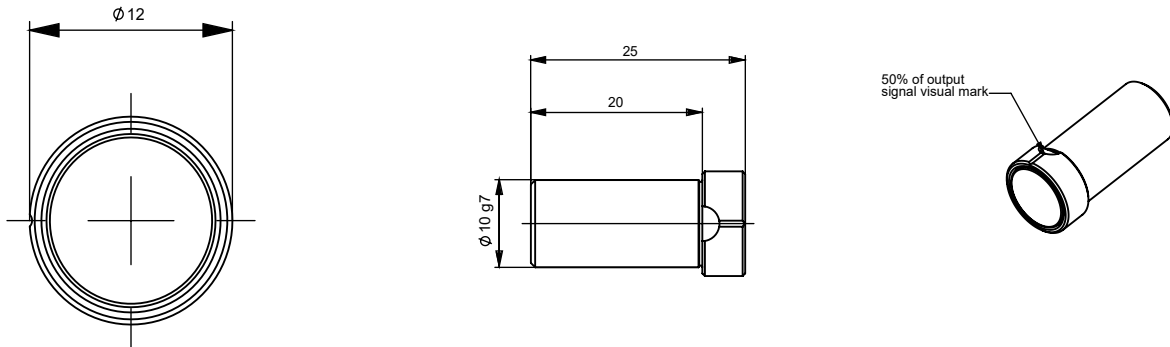
Frontal magnet support + Magnet 8810/013

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



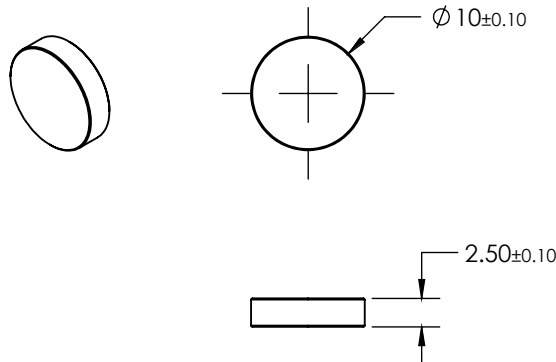
Male magnet support + Magnet 8810/013

Ordering p/n : **M9105/M10-01**



Magnet

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



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