

TCW4 SSI

SSI MULTI-TURN MODULAR SENSOR

Sensata-BEI Sensors' TCW4 sensors provide absolute multi-turn measurement with an SSI output in an over-molded, modular package that offers design 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 5 to 30 VDC – SSI Output
- Available resolution 12 bits per turn and up to 13 bits of turns counting.
- Variety of magnet holders available

Applications

- Factory Automation
- Process Automation



SPECIFICATIONS

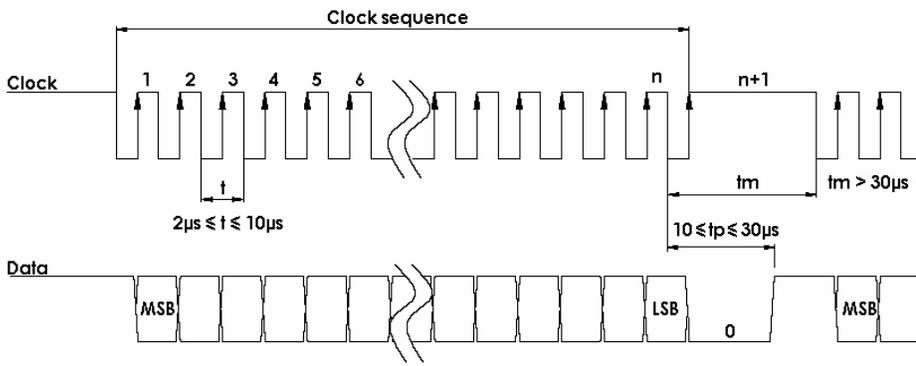
Mechanical

Terminations	PUR cable
Housing	Macromelt PA638
Weight	0,150 kg

Electrical

Electrical Angle	360°
Output Function	SSI, 10% to 90% Duty Cycle
Minimal Cycle Time	1ms
Resolution	Resolution 12 bits per turn and up to 13 bits of turns counting
Accuracy	+/-0.3% on 360°
Repeatability	+/-0.1% on 360°
Supply Voltage	5V to 30 Vdc
Start-up	< 1s
Response time	< 10 ms
Recommended Load	> 10 kOhms
Isolation	500 Veff
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.

SSI Transmission

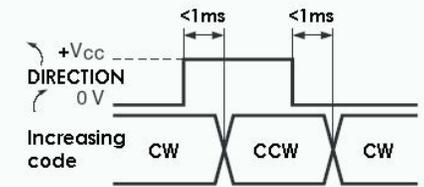


Transmission	Transmission up to 400m* at 100kHz as a function of the cable characteristics.
Cable	High security of transmission by using shielded cable and twisted pairs.

* Consult us for length > 100m.

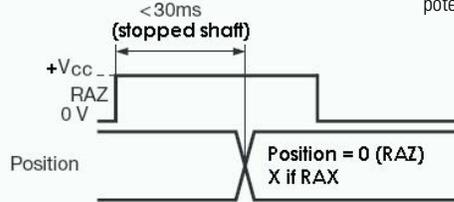
Note: Connect DIRECTION and RAZ/RAX to a potential (RAZ at 0V if not used)

DIRECTION input



	min	max	Increasing
Level "0"	0 V	0,3x(+V _{CC})	CW
Level "1"	0,7x(+V _{CC})	+V _{CC}	CCW
I direction	< 5mA		

RAZ / RAX input



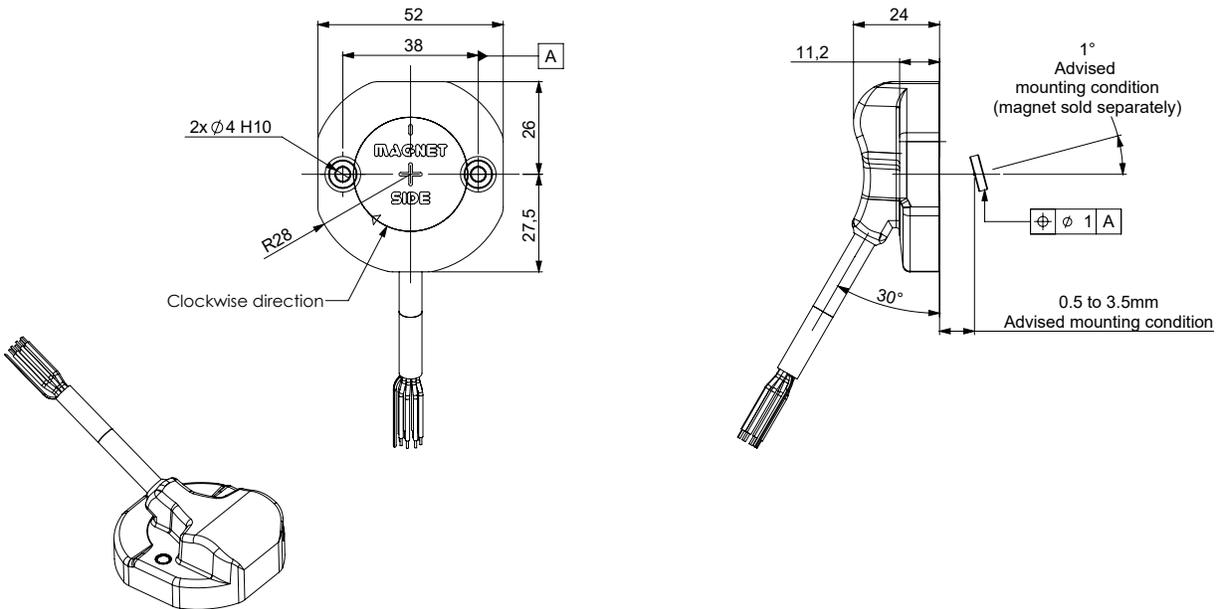
	min	max
Level "0"	0 V	0,3x(+V _{CC})
Level "1"	0,7x(+V _{CC})	+V _{CC}
I raz/rax	< 5mA	



DIMENSIONS

All Dimensions are in millimeters.

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





CONNECTIONS

Ref.	Type	+ Vcc	0 V	Clk+	Data+	RAZ	Data-	Clk-	Direction	Ground
S5	SSI cable PUR 8230/050	BN/GN Brown/ Green	WH/GN White/Green	GN Green	GY Gray	BU Blue	PK Pink	BN Brown	WH White	General shielding



NOTES

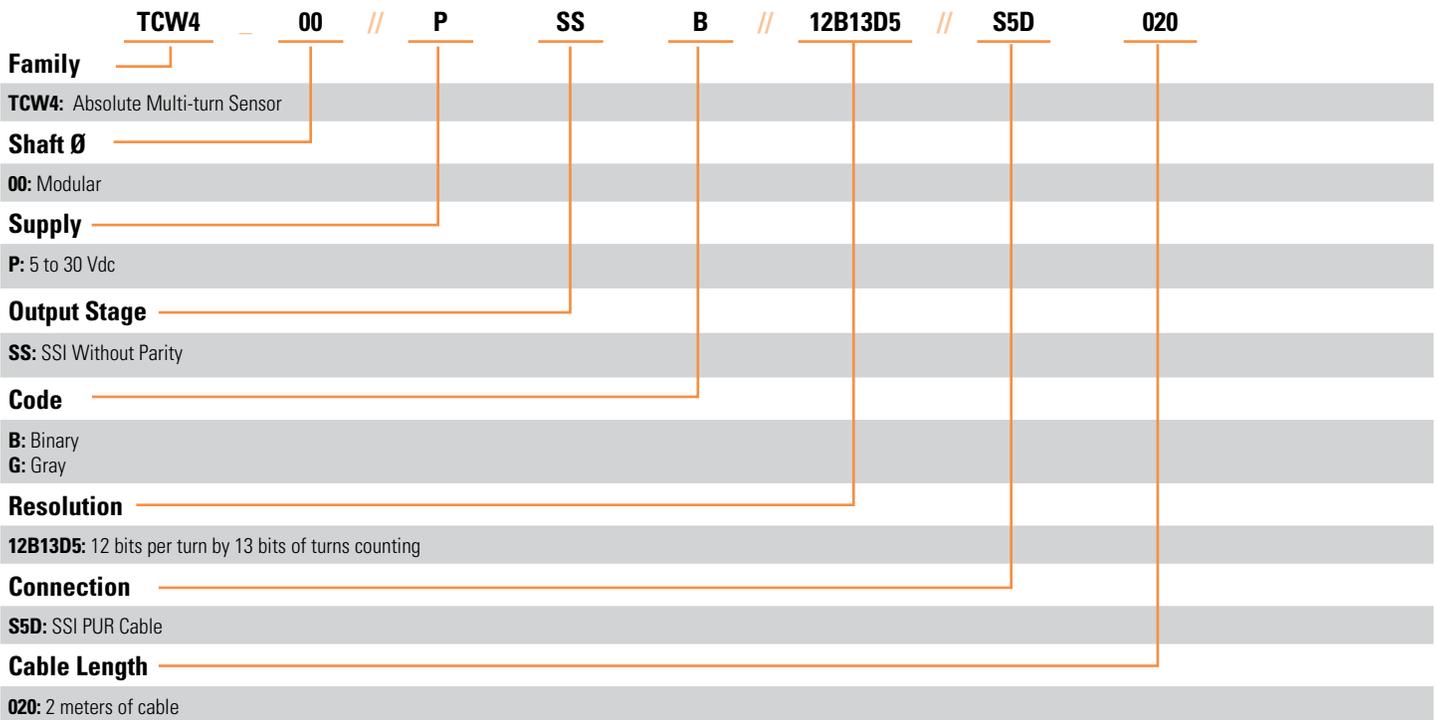
Stray magnetic fields can interfere with accuracy and repeatability of the signal.



ORDERING OPTIONS

Example : TCW4_00//PSSB//12B13D5//S5D020

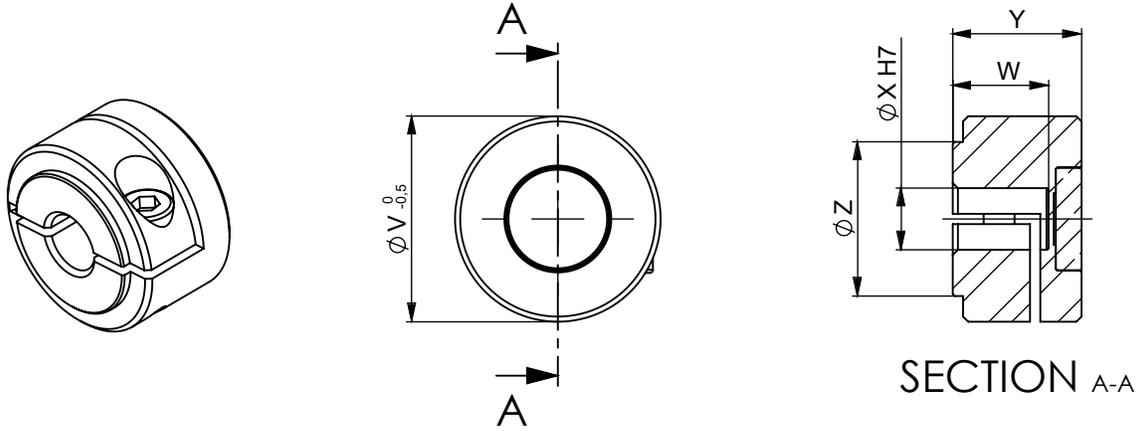
(Contact the factory for special versions, ex : dimensions, connections...)



Female magnet support + Magnet 8810/013

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

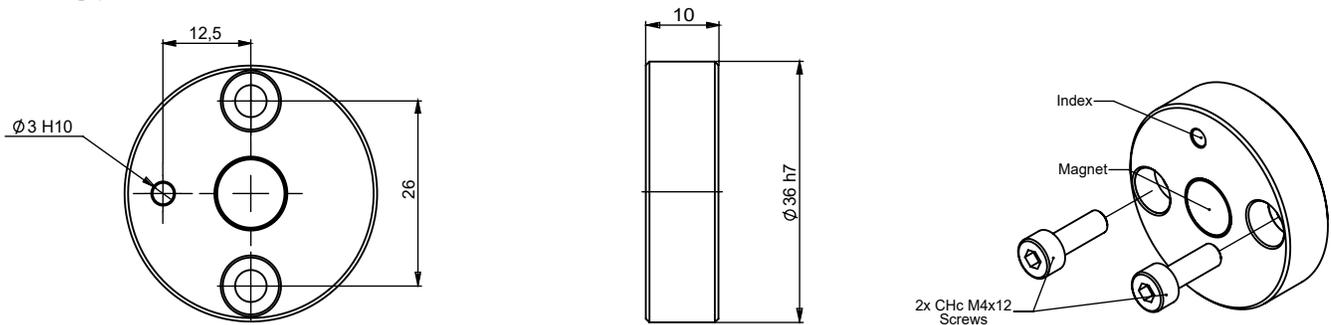
KXX: Where XX is the shaft mounting diameter in mm. Standards are 06, 08, 10, 11, and 14 mm. i.e M9105/K10 mounts to a 10 mm shaft.



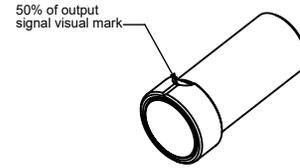
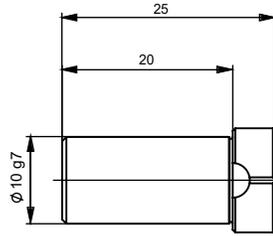
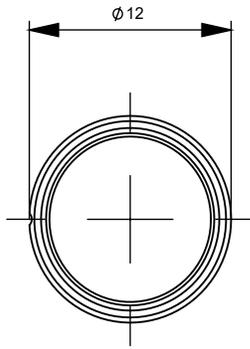
	M9105/K06	M9105/K08	M9105/K10	M9105/K11	M9105/K14
X	06 H7	08 H7	10 H7	11 H7	14 H7
V	20	20	26	26	29
W	9,3	9,3	10	10	10
Y	12,5	12,5	14	14	14
Z	15	15	15	15	18

Frontal magnet support + Magnet 8810/013

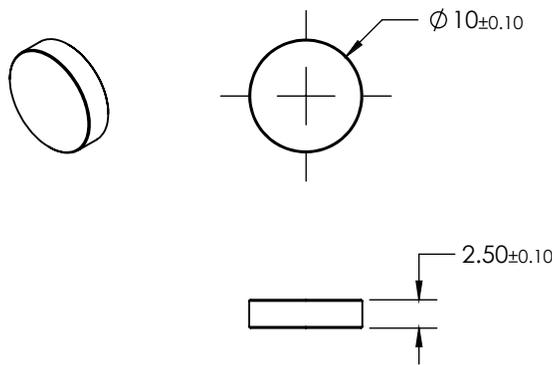
Ordering p/n : **M9105/F26**



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



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



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