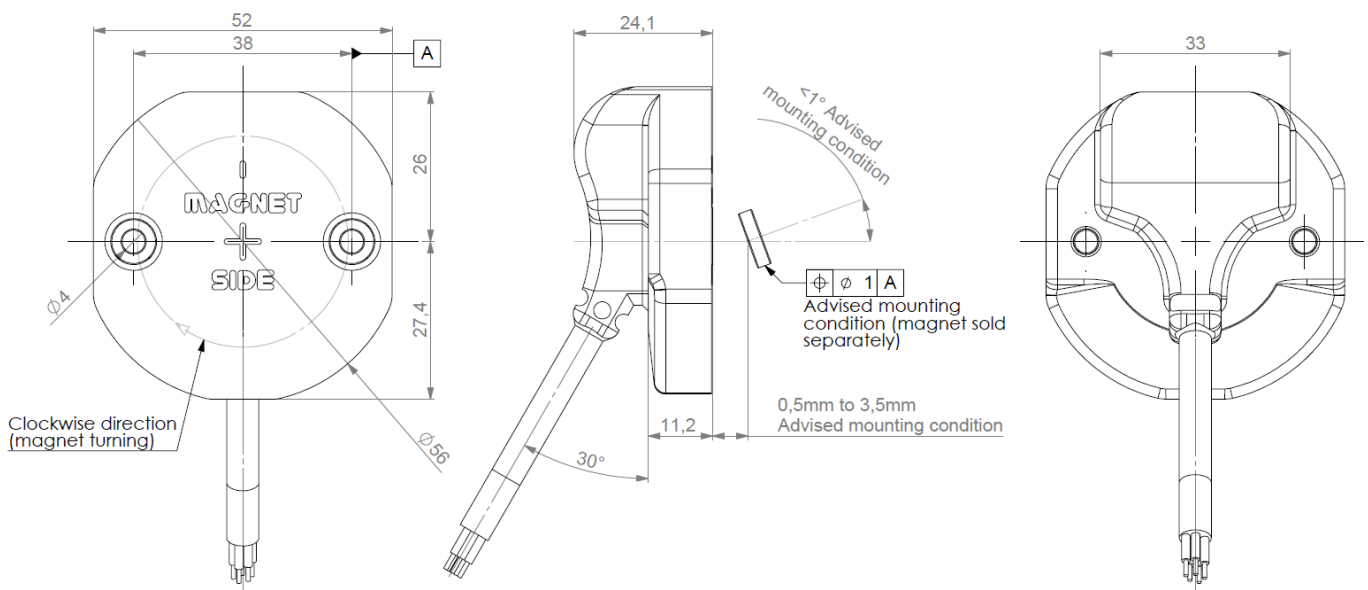


## PRELIMINARY - MAGNETIC SSI ABSOLUTE MULTI TURN MODULAR SENSORS, TCW4 RANGE

- With its modular design, the TCW4 SSI absolute multi-turn sensor offers maximum flexibility when installing it.
- Application fields : agriculture, construction, forestry vehicles, medical, solar panels...
- Robustness and excellent resistance to shocks / vibrations.
- Standard IP67 protection (IP69K option).
- Operating temperature range: -20°C to 85°C.
- Magnetic technology.
- Universal supply 5 to 30Vdc – SSI output interface.
- Available resolution up to 12 bits per revolution.
- Turn counting up to 16 bits (Standard 13 bits).
- Also available : analog, PWM and CANopen outputs.
- Standard PUR cable output.



### STANDARD TCW4 DIMENSION



Advised mechanical working conditions (for optimal performances) :

- recommended air gap: 0,5mm to 3mm (between magnet's and sensor's faces),
- recommended parallelism :  $\pm 1^\circ$  (between magnet and sensor),
- Misalignment tolerance :  $\pm 0,5$ mm (between magnet's and sensor's centers).

Shaft system with magnet to be ordered separately (cf specific data-sheet M9105).

### MECHANICAL DATA

Material	Macromelt OM638	Protection	IP 67
Encoder weight (approx.)	0,150 kg	Shocks (EN60068-2-27)	$\leq 2000m.s^{-2}$ (during 6 ms)
Operating temperature	- 20... + 85 °C (encoder T°)	Vibrations (EN60068-2-6)	$\leq 200m.s^{-2}$ (55 ... 2 000 Hz)
Storage temperature	- 20... + 85 °C	Max. speed	6000 min <sup>-1</sup>

### ADAPTATION POSSIBILITY

BEI Sensors distinguishes itself by its flexible approach and ability to react to customers needs, with us no limit exists; we shall always try to supply you the product offering the best solution to your specifications.

**Modified mechanics:** Precision prototypes units, small and medium size. Units that will match themselves exactly to your mechanical configuration or to your dimensional constraints.

**Specific shaft system:** for example with integrated coupling.

**Send us your subset:** we can integrate our encoder into your subset and return you the complete assembly with the guarantee of an optimal mounting.

**Connection / Cable assemblies:** On the whole range of our sensors a wide selection of electrical connections are possible.

## PRELIMINARY - MAGNETIC SSI ABSOLUTE MULTI TURN MODULAR SENSORS, TCW4 RANGE

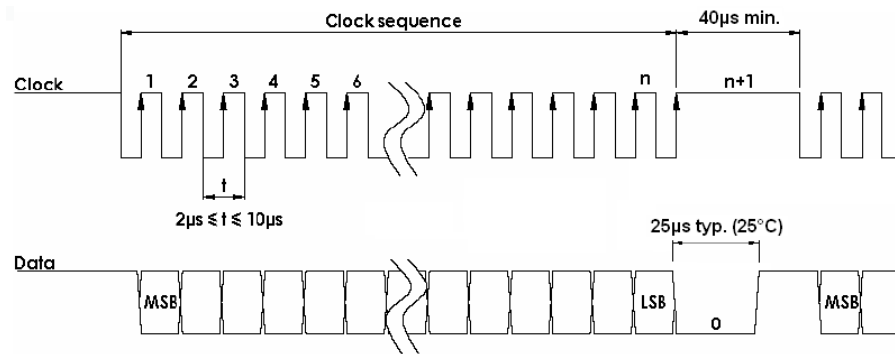


### ELECTRICAL DATA

Power supply	5-30Vdc	Sampling rate*	1 kHz
Consumption without load	< 40mA (at 24Vdc)	Accuracy	± 0.3 %
Resolution in the turn	12 bits	Repeatability	± 0.1 %
Number of turns	16 bits max.	Introduction	< 1s
Total resolution	Up to 28 bits	Refresh rate	< 400µs

\* Nota : Internal data refresh rate

### SSI TRANSMISSION



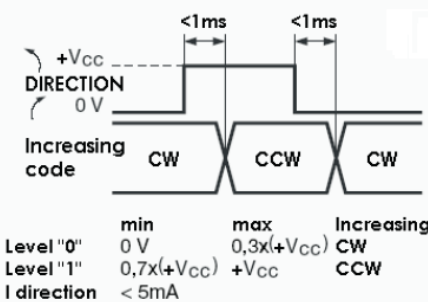
Transmission	Transmission up to 400m at 100kHz in function of the cable characteristics.
Cable	High security of transmission by using shielded cable and twisted pairs.

\* Consult us for length > 100m.

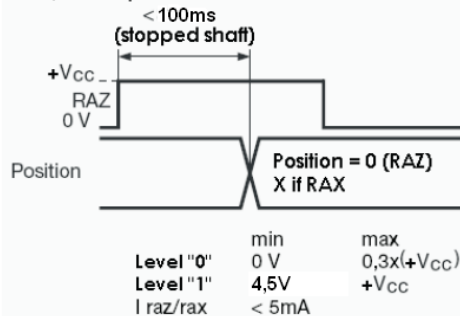
### STANDARD SSI CONNECTION

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

#### DIRECTION input



#### RAZ / RAX input



Nota : Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used)

### TCW4 ORDERING REFERENCE (Contact the factory for special versions , ex : dimensions, connections...)

	Mechanics	Supply	Output stage	Code	Resolution	Connection	Orientation
TCW4 :	00 :	P :	SS :	B :	12B13D5 :	S5 :	R005 :
Magnetic Absolute multi-turn encoder	modular	5 to 30Vdc	SSI without parity	Binary	25 bits	SSI PUR cable	50cm radial cable
				G :	12B12D4 :		
				Gray	24 bits		

Ex: TCW4\_ 00 // P SS G // 12B13D5 // S5 R005

Made in France