

# TCW4

## Magnetic Analog Absolute Multi Turn Modular Sensor



- With its modular design, the TCW4 analog 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 IP 67 protection (IP69K option).
- Operating temperature range: -20°C to 85°C.
- Magnetic technology.
- Universal supply 5 to 30Vdc.
- Available resolution up to 12 bits per revolution.
- Turn counting up to 16 bits.
- Also available : PWM, SSI and CANopen outputs.
- Standard PUR cable output.
- Consult us for integration in particular magnetic environment (motor/brake, etc...)

ELECTRICAL SPECIFICATIONS		MECHANICAL SPECIFICATIONS	
<b>Power supply</b>	5V or 10–30Vdc or 15-30Vdc	Material	Macromelt OM638
<b>Consumption without load</b>	< 40mA (at 24Vdc)	Encoder weight (approx.)	0,150 kg
<b>Resolution</b>	12 bits	Operating temperature	- 20... + 85 °C
<b>Accuracy</b>	± 0.3 %	Storage temperature	- 20... + 85 °C
<b>Repeatability</b>	± 0.1 %	Protection	IP 67
<b>Introduction</b>	< 1 s	Shocks (EN60068-2-27)	≤ 2000m.s <sup>2</sup> (during 6 ms)
<b>Response time</b>	< 10 ms (5L2 & 3L1 electronic) < 1ms (other electronics)	Vibrations (EN60068-2-6)	≤ 200m.s <sup>2</sup> (55 ... 2 000 Hz)
<b>Advised load</b>	>10kOhms (Voltage output) 5000hms (current output)	EMC	EN 61000-6-4, EN 61000-6-2

ORDER INFORMATION						
	Mechanics	Supply Output stage	Direction	Resolution	Connection	Connection orientation
<b>TCW4</b> Absolute multi turn encoder	<b>00:</b> Modular	<b>3L1</b> : 15 to 30Vdc 0..10V output <b>5L2</b> : 10 to 30Vdc 0.5..4.5V output <b>3L3</b> : 15 to 30Vdc 4..20mA output <b>2LR</b> : 5V +/- 5% Ratio 10...90% voltage supply	<b>1</b> : Analog output with Direction input	<b>xxxxx</b> : Calibrated angle in degree Ex : <b>03600</b> 3600°	<b>L5</b> : Cable output	<b>R020</b> : Radial Cable 2m
<b>Ex: TCW4</b>	<b>00</b>	<b>3L1</b>	<b>1</b>	<b>03600</b>	<b>L5</b>	<b>R020</b>

### ADAPTATION POSSIBILITY

**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.

2015-07-28, specifications subject to change without notice

ISO 9001  
BUREAU VERITAS  
Certification



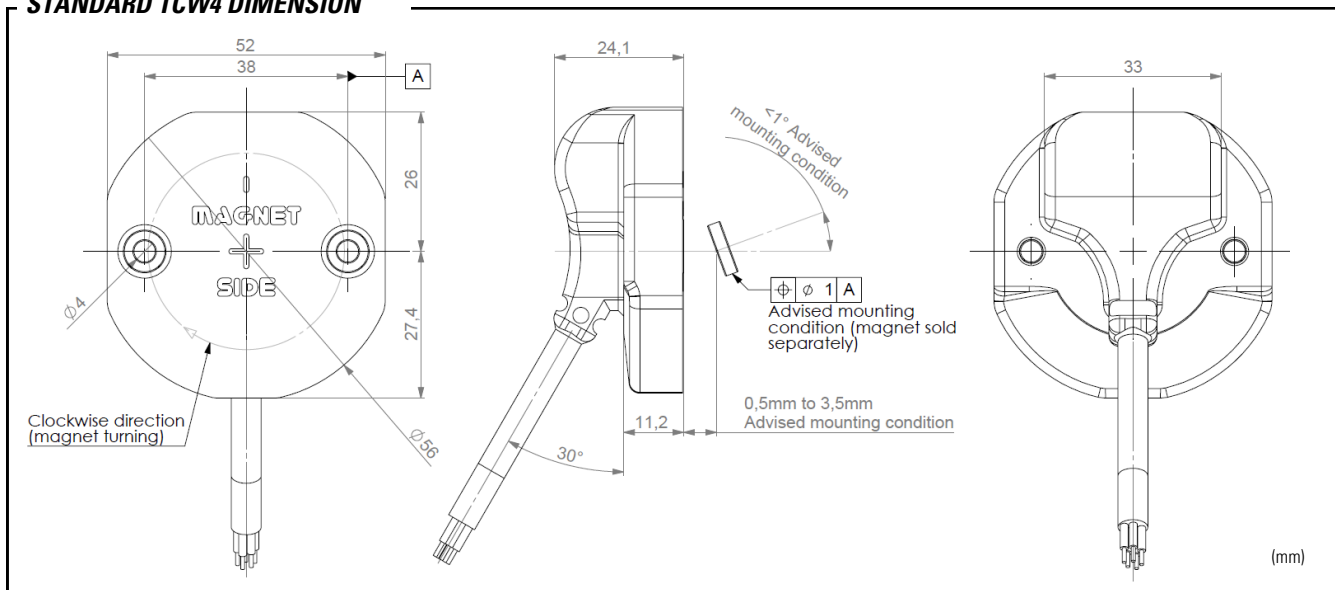
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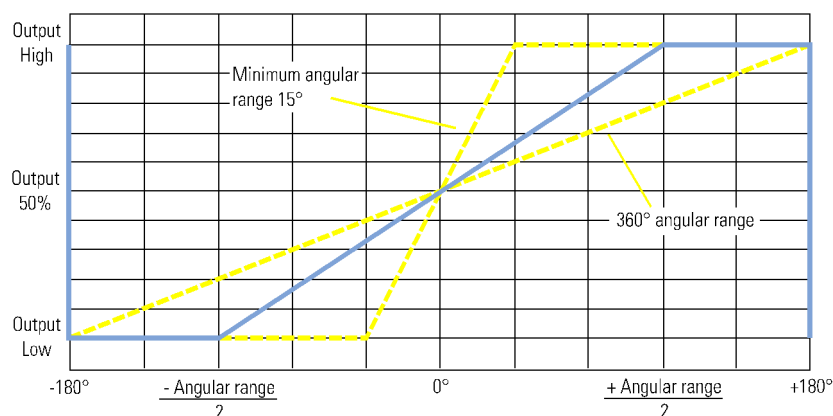
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### STANDARD TCW4 DIMENSION



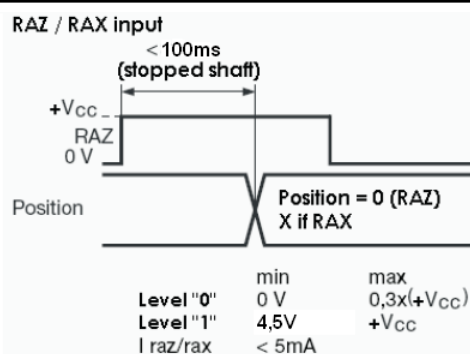
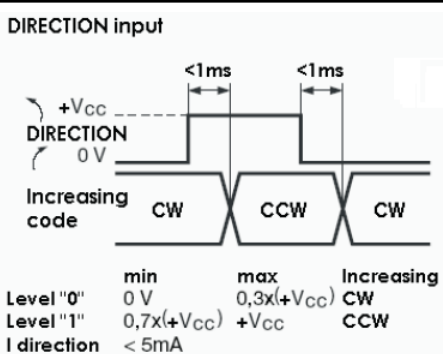
### ANALOG OUTPUT



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).

### INPUTS



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

### CONNECTION

	+VCC	0V	Analog output	RAZ - Reset	Direction	Ground
L5	BN Brown	WH White	GN Green	BU Blue	RD Red	General shielding

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