



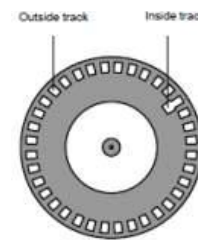
ROTARY INCREMENTAL ENCODER

- 58mm incremental encoder,
- High performances in temperature -30°C to 100°C ,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- 5Vdc electronic,
- Push-pull output,
- Resolution 2500 ppr,
- 1,5 meter radial PUR cable with M23 12 pinouts male at the end,
- Encoder delivered with mating connector.

Incremental encoder principle

The disc of the XCC-1506 incremental encoder comprises 2 types of track:

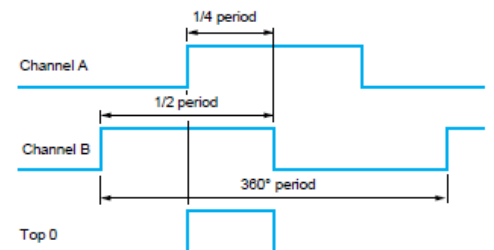
- outside tracks (channels A and B), comprising 2500 equal angular steps that are alternately opaque and transparent. 2500 is the resolution (number of periods) of the XCC-1506
- an inside track comprising a single window, which serves as the reference point and enables reinitialisation at each revolution (top 0).



Schemes and settings

The operation of the photosensitive elements (LEDs + photosensitive diodes) is based on the real-time differential optical reading principle:

- the photosensitive elements of tracks A and B are offset so that each will simultaneously read only its respective slot (channels A and B are 90° electrically offset),
- the electronics operate following the principle of real-time differential measurement.



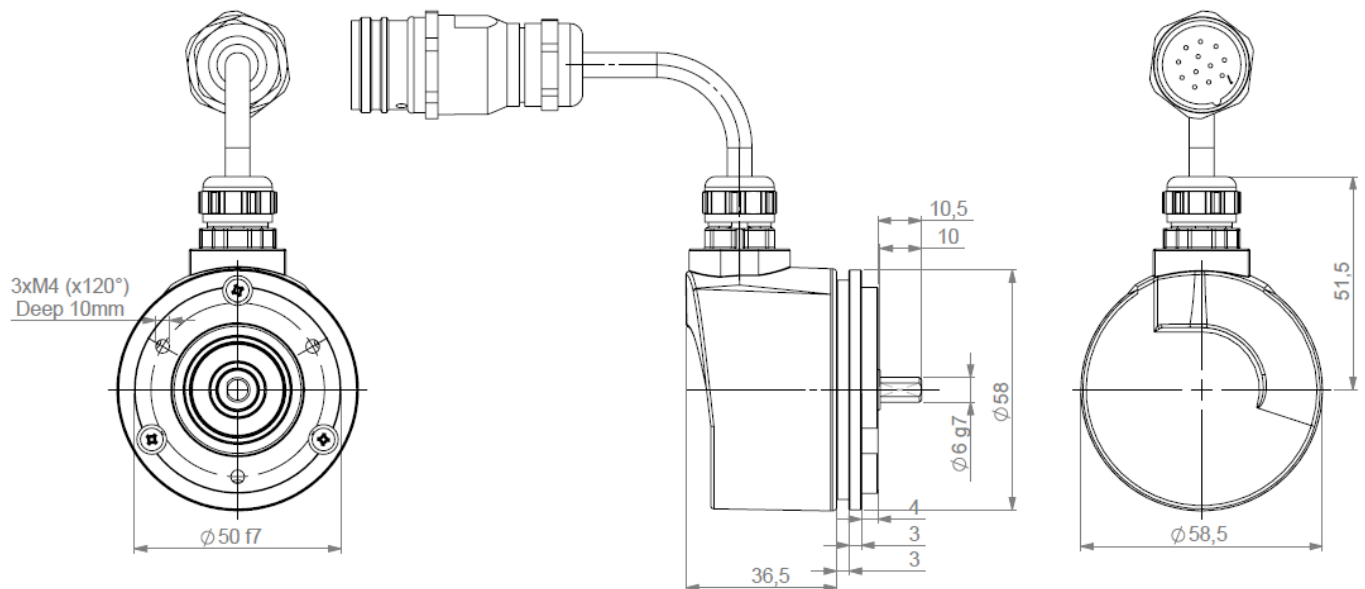
Channel B (rising edge) arriving before A in the clockwise direction viewed from base side.

Period: 360° electrical.

Cyclic ratio: 180° electrical $\pm 10\%$.

Phase displacement: 90° electrical $\pm 25\%$.

XCC-1506 dimensions



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ENVIRONMENT

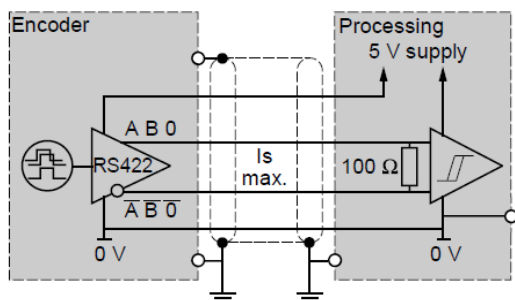
Conformity		CE
Temperature	Operating (housing)	°C - 30...+100
	Storage	°C - 30...+85
Degree of protection	Conforming to IEC 60529	IP 65
Vibration resistance	Conforming to IEC 60068-2-6	10 gn (f = 55...2000 Hz)
Shock resistance	Conforming to IEC 60068-2-27	30 gn duration 11 ms
Resistance to electromagnetic interference	Electrostatic discharges	Conforming to IEC 61000-4-2: level 3,8 kV air; 4kV contact
	Radiated electromagnetic	Conforming to IEC 61000-4-3: level 3, 10 V/m
	Fast transients (Start/Stop interference)	Conforming to IEC 61000-4-4: level 3, 2 kV (1kV for inputs/outputs)
	Surge withstand	Conforming to IEC 61000-4-5: level 2, 1kV
Materials	Base	Aluminium
	Housing	Zamak
	Shaft	Stainless steel
	Ball bearings	6000ZZ1 serie

MECHANICAL CHARACTERISTICS

Shaft type		mm	Ø 6 solid
Maximum rotational speed	Continuous		9000 rpm
Shaft moment of inertia		g.cm²	10
Torque		N.cm	0.4
Maximal load	Radial	daN	10
	Axial	daN	5
Weight		g	300

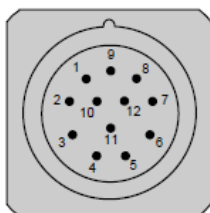
ELECTRICAL CHARACTERISTICS

Connection		Cable 1,5 meter + M23 12 pinouts connector
Supply voltage	V	5 V ± 10% - Max. ripple: 200 mV
Current consumption, no load	mA	100 maxi
Protection		against short-circuits
Output current	mA	40 max.
Output levels	Low level	(I _s = 20mA) 0,5V max
	High level	(I _s = 20mA) 4,5 V min.



M23 12-pin connection at the end of 1,5 meter cable

Male connector on encoder (pin view)



Pin number	1	2	3	4	5	6	7	8	9	10	11	12
Signal	A	+V	0	0	B	B̄	R	A	R	0V	0V	+V
Supply												

*Note: in environments subject to electrical interference, it is recommended to earth the encoder base using one of the fixing screws.
R = reserved, do not connect.*