

| CXM5S

OPTICAL SSI SINGLE-TURN ENCODERS



Features

- Adapted to food and beverage – pharmaceutical - river – offshore applications,
- Stainless steel encoder (316) with hygienic design,
- Flanges and shaft adapted to the market needs,
- Robustness and excellent resistance to shocks / vibrations,
- Double ball bearings with safety lock system,
- Solid shaft version 10mm,
- High protection level IP69K,
- Universal electronic circuits from 5 to 30Vdc,
- Isolated SSI interface, clock from 100 to 1MHz,
- Standard DIRECTION and RESET input
- Digital or sine incremental outputs option
- High performances in temperature –20°C to 90°C (option –40°C to 100°C),
- Optical technology, contactless,
- High resolutions up to 16bits (Gray or binary)
- Adapted axial cable gland output.



SPECIFICATIONS

Material	Shaft: Stainless Steel 316 Cover: Stainless Steel 316 Body: Stainless Steel 316
Bearings	Double ball bearings
Maximal Loads	Axial: 250 N Radial: 500 N
Shaft Inertia	$\leq 1,2 \cdot 10^{-6} \text{ kg.m}^2$
Torque	$\leq 90 \cdot 10^{-3} \text{ N.m}$
Permissible Max. Speed	4,000 min ⁻¹
Continuous Max. Speed	3,000 min ⁻¹
Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
Vibrations (EN60068-2-6)	$\leq 100 \text{ m.s}^{-2}$ (10... 2 000 Hz)
EMC	EN 61000-6-4, EN 61000-6-2
Isolation	1000 Veff
Encoder Weight (Approx.)	0,600 kg
Operating Temperature	- 20 ... + 90°C (encoder T°)
Storage Temperature	- 40 ... + 100°C
Protection (EN 60529)	IP 69K
Theoretical mechanical lifetime 10⁹ turns ($F_{\text{axial}} / F_{\text{radial}}$)	
50 N / 100 N	12
250 N / 500 N	0,5

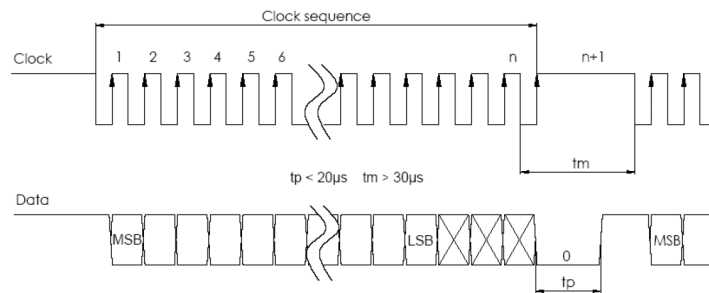


ELECTRICAL CHARACTERISTICS

Input Signal Clockz CLK	Per Optocoupler
Output Signal Data	Line - Driver RS422
Power Supply	5 - 30Vdc
Introduction	< 200ms
Consumption Without Load	Max. 100mA
Clock Frequency (CLK)	100kHz to 1MHz for 13 bits encoder $100\text{kHz} - F_{\text{max}} = 10^6 / (\text{resolution in bits} - 10)$ for encoder >13bits, ex : $F_{\text{max}} = 166\text{kHz}$ for 16 bits encoder
Interrogation Frame	n=13 bits for 13 bits resolution n=21bits for >13bits resolution



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

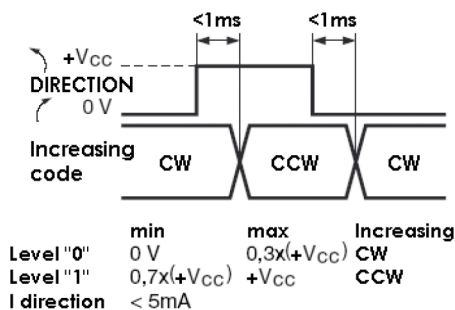
* Consult us for length > 100m



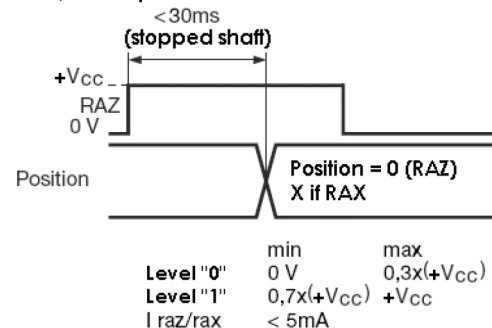
CONNECTION

Type	0V	+Vcc	Clk+	Clk-	Data+	Data-	RAX	Direction
TD	BK Black	RD Red	GN Green	YE Yellow	BN Brown	OG Orange	BU Blue	VT Violet

DIRECTION input



RAZ / RAX input

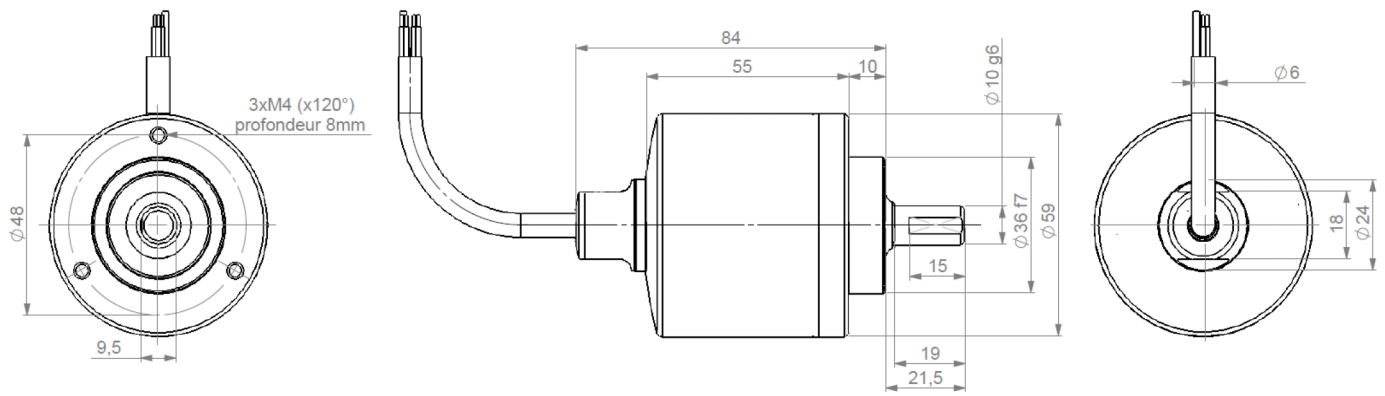


Notes: Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used).



DIMENSIONS

Dimensions in mm





ORDERING OPTIONS

Example : CXM5S10/AA/PCSG//13//S5A050

Contact the factory for special versions, ex: special flanges, electronics, connections...

	CXM5S	10	/	AA	/	P	CS	G	//	13	//	TD	A050
Family	CXM5S												
	Optical — stainless steel 58mm encoder												
Shaft Ø		10: 10mm											
Mechanics				AA: 316 stainless steel IP69K Hygienic design									
Supply						P: 5 to 30Vdc							
Output Stage							CS: SSI without parity CP: SSI even parity CI: SSI odd parity						
Code								B: Binary G: Gray					
Resolution										13: 13 bits Standard Option: 14: 14 bits to 16: 16 bits			
Connection												TD: cable	
Orientation													A050: Axial Cable 2m

Monitoring function available in option:

- of the code coherence
 - of the LED internal regulated current loop
 - of temperature range with 2 limits
- Consult us

Input / output available in option:

- RAX input (reset to a value X, manufacture setting)
- ERROR output for monitoring functions
- Sine & Cosine outputs without index, 2048ppr (option: 4096 ppr)
- A & B incremental outputs without index, 2048ppr (option: 4096 ppr)



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