



## | CXM5S

### OPTICAL CANOPEN 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,
- CANopen interface,
- High performances in temperature  $-20^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  ( $-30^{\circ}\text{C}$  option),
- Optical technology, contactless,
- High resolutions up to 4 096 points pre turn ( $2^{13}$ )
- Adapted axial cable gland output.



#### SPECIFICATIONS

<b>Material</b>	<b>Shaft:</b> Stainless Steel 316 <b>Cover:</b> Stainless Steel 316 <b>Body:</b> Stainless Steel 316
<b>Bearings</b>	Double ball bearings
<b>Maximal Loads</b>	<b>Axial:</b> 250 N <b>Radial:</b> 500 N
<b>Shaft Inertia</b>	$\leq 1,2 \cdot 10^{-6} \text{ kg.m}^2$
<b>Torque</b>	$\leq 90 \cdot 10^{-3} \text{ N.m}$
<b>Permissible Max. Speed</b>	$4,000 \text{ min}^{-1}$
<b>Continuous Max. Speed</b>	$3,000 \text{ min}^{-1}$
<b>Shocks (EN60068-2-27)</b>	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
<b>Vibrations (EN60068-2-6)</b>	$\leq 100 \text{ m.s}^{-2}$ (10... 2 000 Hz)
<b>EMC</b>	EN 61000-6-4, EN 61000-6-2
<b>Isolation</b>	500V (1min)
<b>Encoder Weight (Approx.)</b>	0,600 kg
<b>Operating Temperature</b>	- 20 ... $85^{\circ}\text{C}$ (encoder $T^{\circ}$ )
<b>Storage Temperature</b>	- 40 ... $+ 85^{\circ}\text{C}$
<b>Protection (EN 60529)</b>	IP 69K
<b>Theoretical mechanical lifetime <math>10^9</math> turns (<math>F_{axial} / F_{radial}</math>)</b>	
<b>50 N / 100 N</b>	12
<b>250 N / 500 N</b>	0,5



## ELECTRICAL DATA

<b>Power Supply</b>	5 - 30Vdc
<b>Introduction</b>	< 1 s
<b>Consumption (Without Load)</b>	< 50mA (at 24Vdc)
<b>Accuracy</b>	$\pm \frac{1}{2}$ LSB (13 bits)



## PROGRAMMABLE PARAMETERS

**Resolution:** defines the resolution per revolution (0 to 8 192),

**Transmission Speed:** programmable from 10kbaud (1000m) to 1 Mbaud (40 m) ; value per default: 20 Kbaud,

**Address:** define the software address of the encoder on the bus (1 to 127, value by default: id = 1),

**Direction:** define the direction of count of the encoder,

**RAX:** defines the value of its preset position (non turning shaft),

**CAM:** Low and High Limits.



## COMMUNICATION MODES

3 modes are available to interrogate the encoder:

**POLLING mode:** (Response to a RTR message): The position value is only given upon request (SDO mode),

**CYCLIC mode:** the encoder transmits its position in an asynchronous manner. The frequency of the transmission is defined by the programmable cyclical timer register from 0 to 65 535 ms,

**SYNCHRO mode:** the encoder transmits its position on a synchronous demand by the master.



## CONNECTION

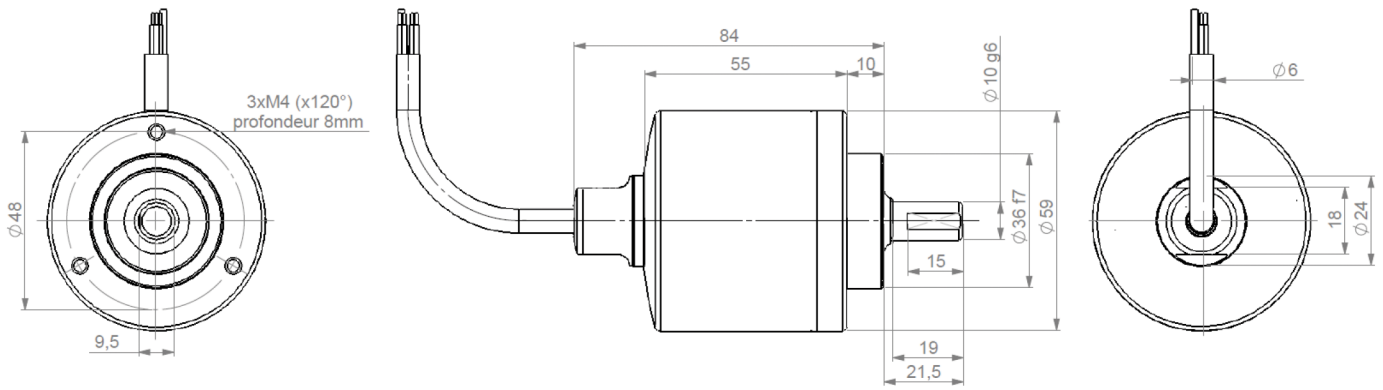
Type	+Vcc	0V	CAN Low	CAN High	CAN Gnd
00	BN Brown	WH White	YE Yellow	GN Green	GY Grey

Note: Refer to the bus standards for the maximal derivation length.



## DIMENSIONS

Dimensions in mm

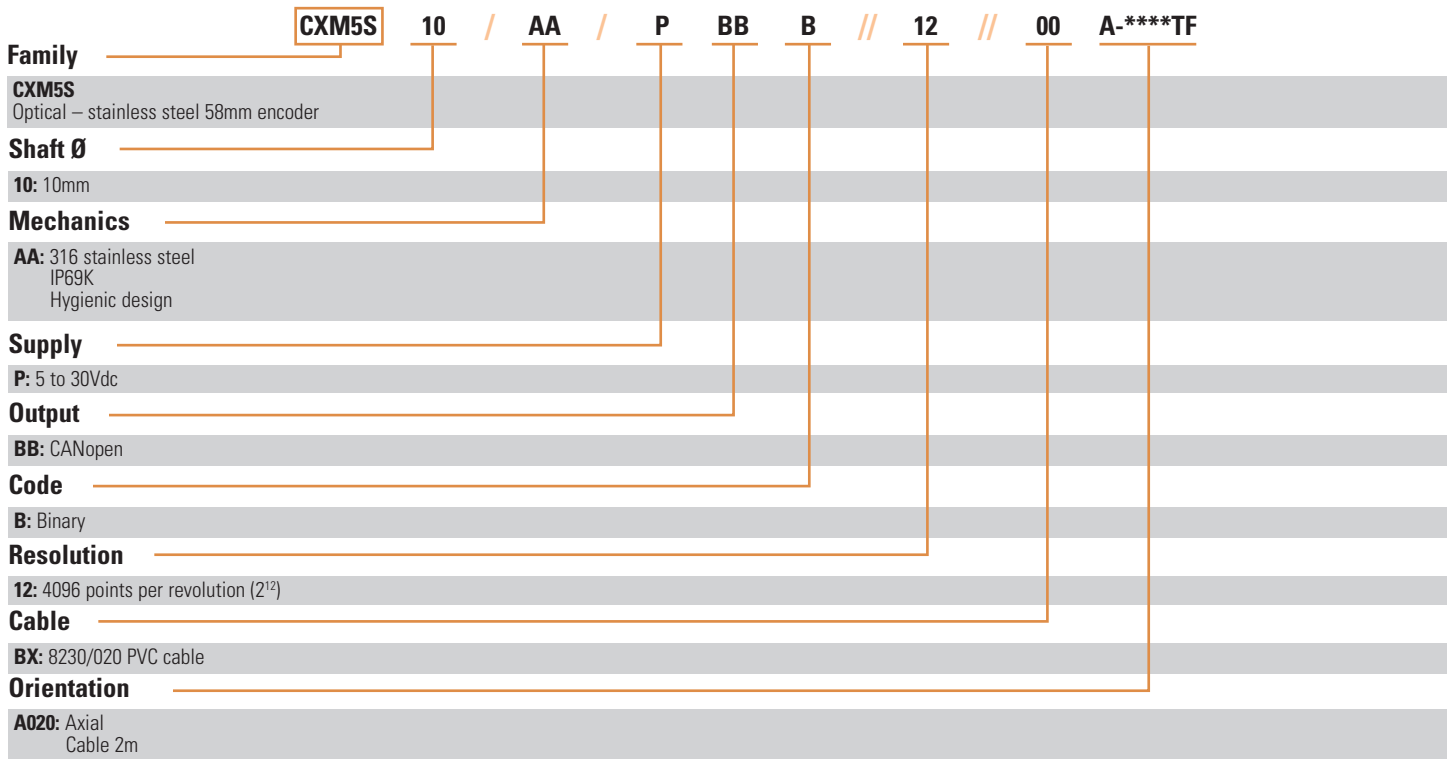




# ORDERING OPTIONS

Example : CXM5S10/AA/PBBB//12//00A-\*\*\*\*TF

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





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