

## OPTICAL CANopen MULTI-TURN ENCODERS, PXM5S – STAINLESS STEEL 316 - IP69K



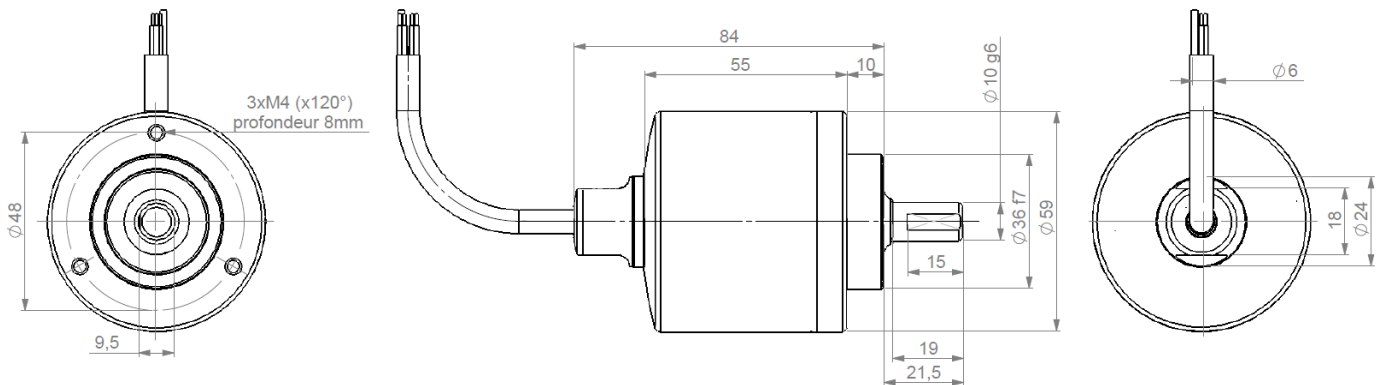
- Adapted to food and beverage – pharmaceutical – river – offshore applications,
- Stainless steel encoder (316) with hygienic design,
- Flanges and shaft adapted to the market needs,
- Robustness and excellent resistance to shocks / vibrations,
- Double ball bearings with safety lock system,
- High protection level IP69K,
- Universal electronic circuits from 5 to 30Vdc,
- CANopen interface,
- Available with incremental channels – 2048 points – 5 to 30 Vdc,
- High performances in temperature –20°C to 85° (-30°C option),
- Optical technology, contactless,
- High resolutions available: 8192 (13 bits) per turn,
- Turn counting up to 65 536 (16 bits),
- Adapted axial cable gland output.



**CANopen**

DS 501 V4.02  
DS 406 V3.1

### PXM5S10 DIMENSIONS



### MECHANICAL CHARACTERISTICS

Material	Shaft: Stainless steel 316	Shaft inertia	$\leq 1,2 \cdot 10^{-6} \text{ kg.m}^2$
	Cover: Stainless steel 316	Torque	$\leq 90 \cdot 10^{-3} \text{ N.m}$
	Body: Stainless steel 316	Shock (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
Bearings	Double ball bearings	Vibration (EN60068-2-6)	$\leq 100 \text{ m.s}^{-2}$ (10... 2 000 Hz)
Maximal loads	Axial : 250 N	Encoder weight (approx.)	0,600 kg
	Radial : 500 N	Protection(EN 60529)	IP 69K
Theoretical mechanical lifetime $10^9$ turns ( $F_{\text{axial}} / F_{\text{radial}}$ ) 50 N / 100 N : 12 250 N / 500 N : 0,5		EMC	EN 61000-6-4, EN 61000-6-2
Permissible max. speed	4 000 min <sup>-1</sup>	Isolation	500V (1 min.)
Continuous max. speed	3 000 min <sup>-1</sup>	Operating temperature	-20 ... + 85 °C (encoder T°)
		Storage temperature	-20 ... + 85 °C

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### ELECTRICAL CHARACTERISTICS

Power supply	5 – 30Vdc
Introduction	< 1 s
Consumption (without load)	< 50mA (at 24Vdc)
Accuracy	± ½ LSB (13 bits)

### PROGRAMMABLE PARAMETERS

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

**Global resolution :** total amount of codes for the encoder (2 to 536 870 912),

**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	Cable	Green – Grey GN - GY	Blue – Red BU - RD	Yellow – Pink YE - PK	Brown BN	White WH
BX	8230/020	CAN LOW	CAN GND	CAN HIGH	0V	+ 5/30Vdc

CAN GND and 0V are connected together (intern the encoder).

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

### ORDERING CODE (Special versions upon request, for ex. special flanges/electronics/connections...)

Range	Shaft Ø	Mechanics	Supply	Output	Code	Resolution	Nb of turns	Cable	Orientation
<b>PXM5S</b>	<b>10</b>	<b>AA</b>	<b>P</b>	<b>BB</b>	<b>B</b>	<b>13</b>	<b>B16</b>	<b>BX</b>	<b>A020</b>
Optical – stainless steel 58mm encoder	10mm	316 stainless steel  IP69K  Hygienic design	5 to 30Vdc	CANopen	Binary	8192 Points per turn (2 <sup>13</sup> )	65 536 turns (2 <sup>16</sup> )	8230/020 PVC cable	Axial 2 meters
Ex:PXM5S	10 /	AA /	P	BB	B //	13	B16 //	BX	A050

Made in France