

PROGRAMMABLE MULTITURN ABSOLUTE ENCODER, PHO5 SERIE, POSI+™

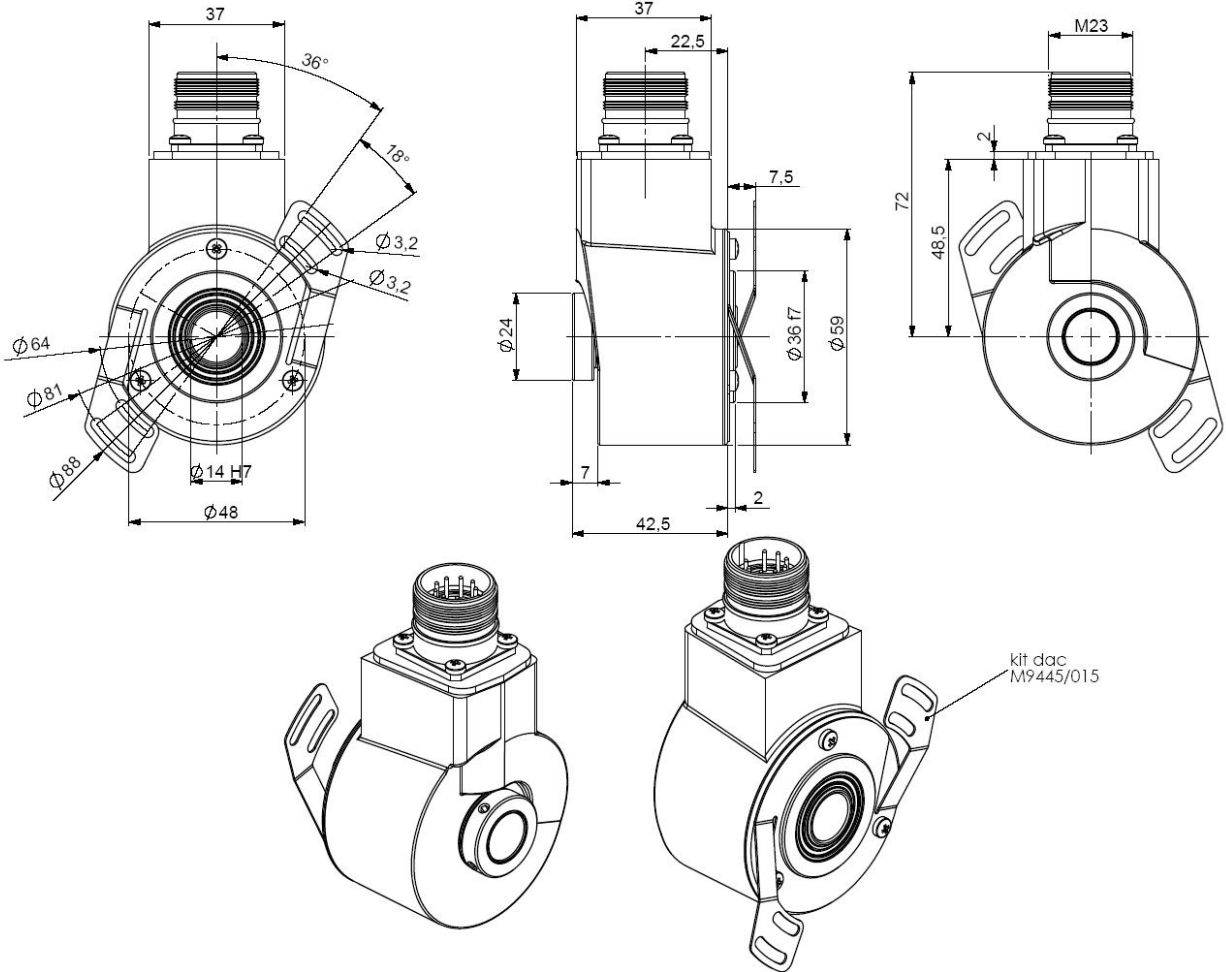
- Through shaft \varnothing 14 mm
- Robustness and excellent resistance to shocks / vibrations
- High performances in temperature -20°C to $+85^{\circ}\text{C}$
- Isolated SSI interface, clock from 100 to 500 kHz
- Universal electronic circuits from 5 to 30Vdc
- Protection against short-circuits and inversion of polarity
- High resolutions available: 8192 (13 bits) per turn
- Turn counting up to 65 536 (16 bits)
- 2 inputs : DIRECTION and RAZ
- Type choice of the wished limit value : position, rotation speed, temperature
- Diagnostic functions: temperature, rotation speed, position, input/output level
- Programming of the encoder with a serial transmission RS232 directly with the serial PC connection: resolution, number of turn, output code, parity, SSI frame bit number, reset value, functions of the 2 outputs : (OUT 1 and OUT 2): limit switch, incremental channels



RS232



PHO5_14 connection P6R (M23 radial), DAC 9445/015* mounted on the body



* accessory to be ordered separately

| | | | |
|------------------------|---|---|--|
| Material | Cover : treated steel | Shock (EN60068-2-27) | $\leq 500\text{m.s}^{-2}$ (during 6 ms) |
| | Body: aluminium | Vibration (EN60068-2-6) | $\leq 100\text{m.s}^{-2}$ (10 ... 2 000 Hz) |
| | Shaft : stainless steel | EMC | EN 61000-6-4, EN 61000-6-2 |
| Bearings | 6 803 serie | Isolation | 100V (1 min) |
| Maximal loads | Axial : 20 N | Weight | 0,480 kg |
| | Radial : 50 N | Operating temperature | $-20 \dots +85^{\circ}\text{C}$ (encoder T°) |
| Shaft inertia | $\leq 2,2 \cdot 10^{-6} \text{ kg.m}^2$ | Storage temperature | $-20 \dots +85^{\circ}\text{C}$ |
| Torque | $\leq 6 \cdot 10^{-3} \text{ N.m}$ | Protection(EN 60529) | IP 65 |
| Permissible max. speed | $6\,000 \text{ min}^{-1}$ | Torque (ring pressure screw) | nominal: 1.5N.m, break: 2.0N.m |
| Continuous max. speed | $6\,000 \text{ min}^{-1}$ | Theoretical mechanical lifetime 10^9 turns ($F_{\text{axial}} / F_{\text{radial}}$) | |
| Shaft seal | Viton | 10 N / 25 N : 185 | 20 N / 50 N : 24 |

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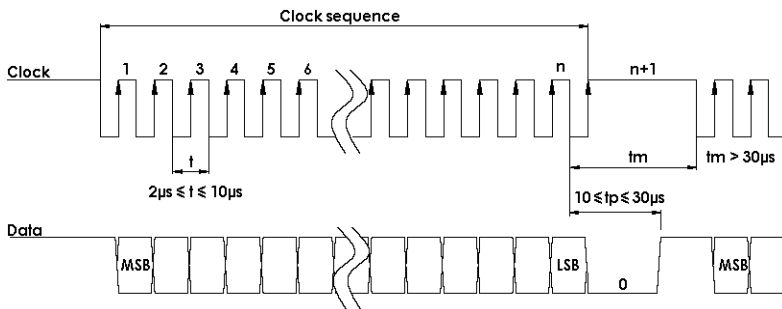
In order to optimize the installation times of SSI encoders, BEI IDEACOD has developed a friendly software, easy to use, with which it's possible to program your encoder under WINDOWS in only 2 minutes. With a simple connection to the serial connector of your PC, you can :

- configure : the number of points per revolution, the number of turns, the code type, SSI frame bit number, the parity, reset value
- read : type of selected encoder, the serial number of the encoder, the position of the encoder, the temperature, the speed of rotation, the level of the input/output
- save the chosen configuration, load saved configurations
- function of the outputs and limit value : position, speed of rotation, temperature, incremental channels 2048 ppr

ELECTRICAL CHARACTERISTIC

| | | | |
|------------------------|---------------------------|--------------------|--------------------------------------|
| Input signal clock CLK | per opto-coupleur | Power supply | 5 – 30Vdc |
| Output signal DATA | line - driver selon RS422 | Introduction | < 1 s |
| Clock frequency CLK | 100kHz – 500kHz | Cons. without load | < 100mA (typically 60-70mA at 24Vdc) |
| Precision | ± ½ LSB (13 bits) | Position refresh | < 200µs |

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 |

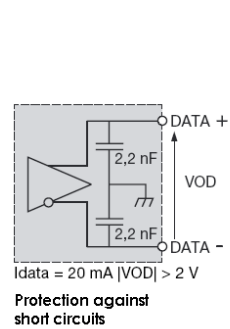
* consult us for length > 100m

SSI CONNECTION

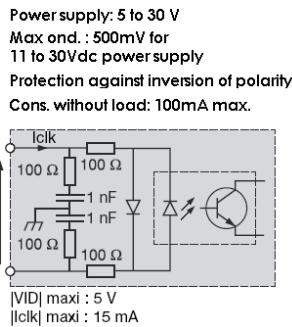
| Type | Vcc | Gnd | Clk+ | Data+ | RAZ | Data- | Clk- | DIR. | OUT1 | OUT2 | TXD Encoder RXD RS232 | RXD Encodeur TXD RS232 |
|------|-----|-----|------|-------|-----|-------|------|------|------|------|--------------------------|---------------------------|
| P6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 10 | 11 | 8 | 12 |

The pinouts TXD and RXD entries used for the encoder programming
Connect the entry DIRECTION and RAZ to a potential (RAZ to the 0V if not used)

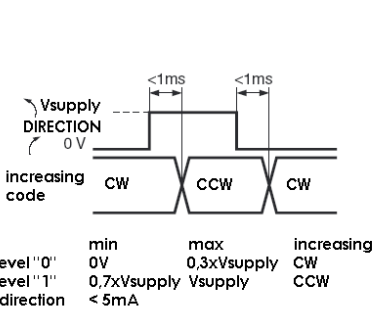
Data output RS422



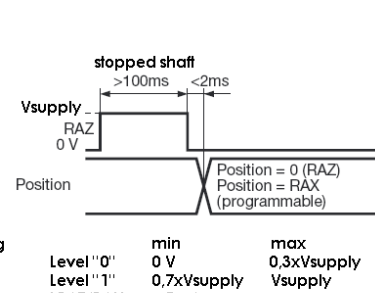
Isolated Clk input



DIRECTION input



RAZ / RAX input



- Output :**
- Max current: 20mA
 - Level "0" max : 0.5V, Level "1" min : Vsupply-2,5V
 - Limit switch time answer : < 400µs
 - Incremental channels : 100kHz max

Programming cable : PC RS232

- Supply : 230Vac / 12Vdc
- Cable SubD9 (serial PC) / M23 12 pins (encodeur)
- Reference : **PRO-020S001**

ORDERING REFERENCE (Contact the factory for special versions, ex:special flanges, connections, electronics...)

| | Shaft Ø | Supply | Output stage | Code | Resolution | | | Connection | Orientation |
|-------|---------|----------------|---|------------------|---------------------|----------------------|---------------------|---|-------------|
| PHO5_ | 14:14mm | P : 5 to 30Vdc | PX : SSI programmable Nota : without parity by default | G : Gray default | 13 B12 D5 | | | P6: M23 12pins CW for SSI transmission | R : radial |
| | | | | | Resolution | Nb of turn | Nb data | | |
| | | | | | 13: 13 bits default | B12: 12 bits default | D5: 25 bits default | | |
| PHO5_ | 14 // | P | PX | G // | 13 | B12 | D5 // | P6 | R |

SOFTWARE / CONFIGURATION MANUAL: consult us

Made in FRANCE