

PROGRAMMABLE MULTITURN ABSOLUTE ENCODER, PHO5 SERIE

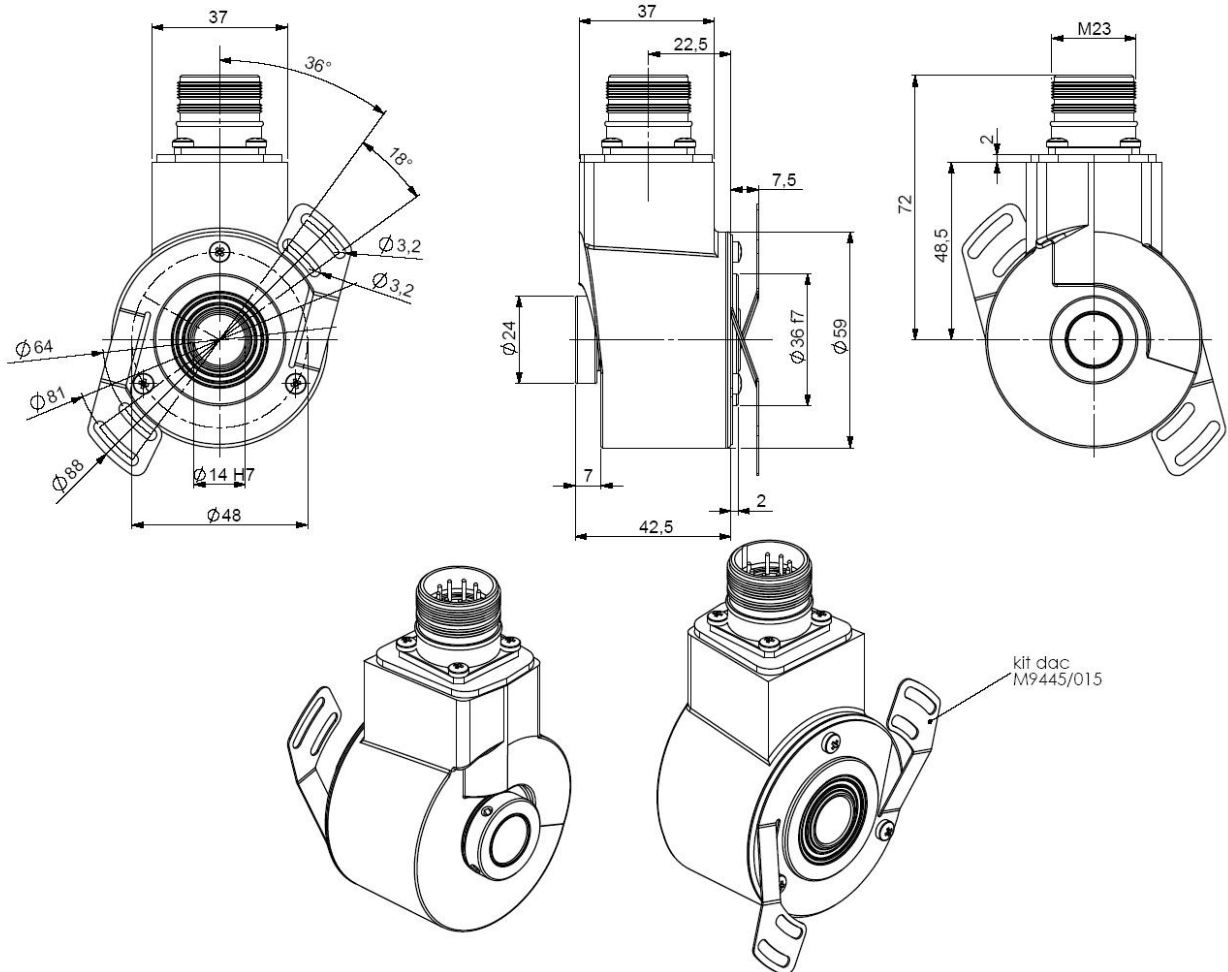
- Extra flat encoder, through shaft \varnothing 14 mm, reduction hubs available: 6, 8, 10, 12mm
- Robustness and excellent resistance to shocks / vibrations
- High performances in temperature -20°C to $+85^{\circ}\text{C}$
- Isolated SSI interface, clock from 100 to 500 kHz
- Universal electronic circuits 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



* accessories 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)
Maximum 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_{axial} / F_{radial})	
Shaft seal	Viton	10 N / 25 N : 185	20 N / 50 N : 24

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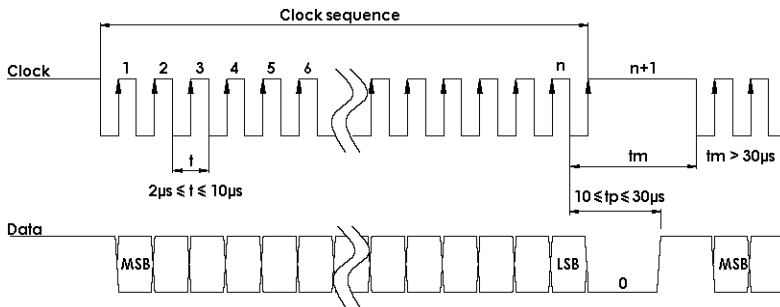
In order to optimize the installation times of SSI encoders, BEI IDEACOD has developed a friendly software, easy to use, with which it's possible to program your encoder under WINDOWS in only 2 minutes. With a simple connection to the serial connector of your PC, you can :

- 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-coupler	Power supply	5 – 30Vdc
Output signal DATA	line - driver 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

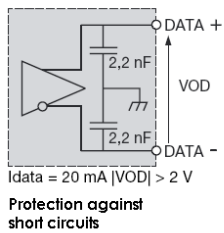
* consult us for length > 100m

SSI CONNECTION

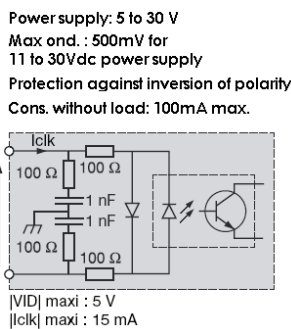
Type	Vcc	Gnd	Clk+	Data+	RAZ	Data-	Clk-	DIR.	OUT1	OUT2	TXD Encoder RXD RS232	RXD Encoder TXD RS232
P6	1	2	3	4	5	6	7	9	10	11	8	12

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

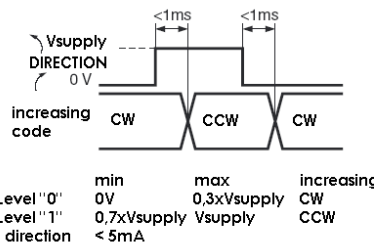
Data output RS422



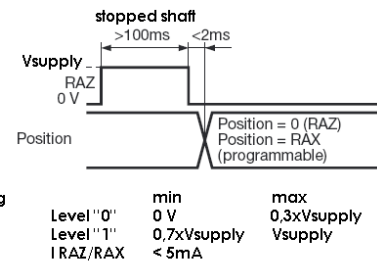
Isolated Clk input



DIRECTION input



RAZ / RAX input



- Output :**
- Max current: 20mA
 - Level "0" max : 0.5V, Level "1" min : $V_{supply} - 2,5 \text{ V}$
 - Limit switch time answer : < 400µs
 - Incremental channels : 100kHz max

Programming cable : PC RS232

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

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

PHO5_	Shaft Ø	Supply	Output stage	Code	Resolution			Connection	Orientation
					Resolution	Nb of turn	Nb data		
	14:14mm	P : 5 to 30Vdc	PX : SSI programmable Nota : without parity by default	G : Gray default	13 B12 D5			P6: M23 12pins 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

Encoder available in stock, manufacture setting: 8192pts/turn, 4096 turns (25bits) - Gray

Made in FRANCE