

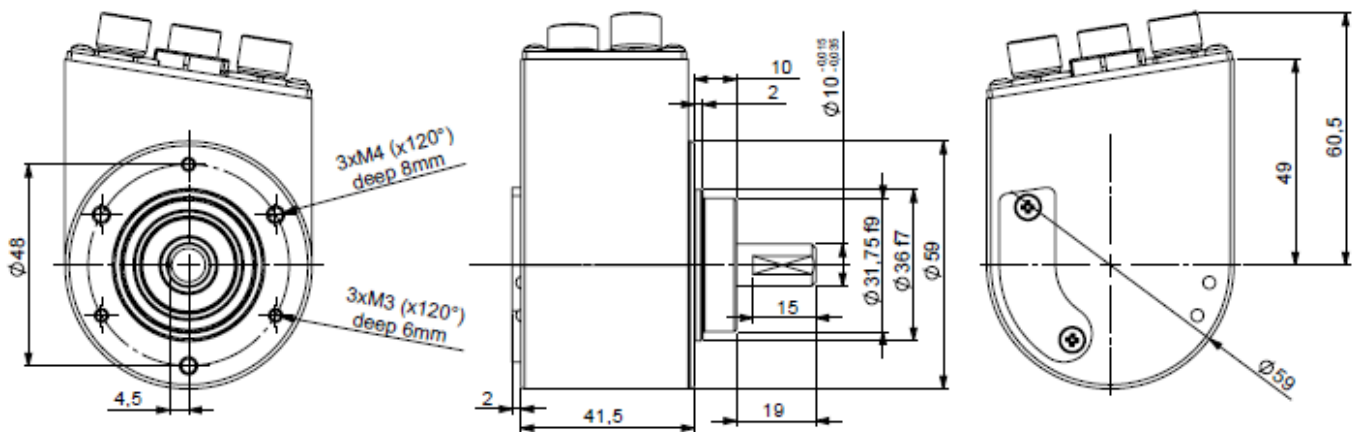
ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHM5 SERIE (3 x M12)

PHM5, new generation of Profibus absolute multi-turn encoders :

- Solid shaft $\varnothing 6$ and $\varnothing 10$ mm,
- Extra-flat encoder – 58mm housing,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature -20°C to $+85^{\circ}\text{C}$,
- 5 to 30 Vdc power supply,
- Standard resolution : 8192 points per revolution (13 bits resolution),
- High resolution available in option: 65 536 points par revolution (16 bits resolution),
- Turns numerisation up to 65 536 (16 bits),
- Connection via M12 connectors,
- DPV0, Class 2, encoder profile 3.062,
- PHM5 also available with SSI, programmable SSI, CANopen and RS232 interface.



DIMENSION : PHM5 Profibus - connection 3xM12



MECHANICAL CHARACTERISTICS

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	6 000 serie	Isolation	500V (1 min.)
Maximal load	Axial : 50 N	Weight (approx.)	0,600 kg
	Radial : 100 N	Operating temperature	$-20 \dots +85^{\circ}\text{C}$ (Encoder T°)
Shaft inertia	$\leq 1.10^{-6} \text{ kg.m}^2$	Storage temperature	$-20 \dots +85^{\circ}\text{C}$
Torque	$\leq 4.10^{-3} \text{ N.m}$	Protection (EN 60529)	IP 65
Permissible max. speed	6 000 min^{-1}	Theoretical mechanical lifetime 10^9 turns (F_{axial} / F_{radial})	
Continuous max. speed	6 000 min^{-1}	25 N / 50 N : 99	50 N / 100 N : 12

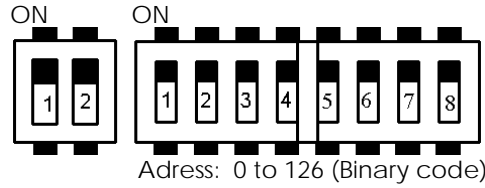
ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHM5 SERIE (3 x M12)

GENERALITY

Transmission frequency: from 9.6Kbaud to 12Mbaud.

Electronic interface: opto-isolated RS 485.

Adress: permits the addressing of each encoder in an installation (32 master stations or slaves stations per segment without repetitor, 127 maximum with repetitor).



End line resistance termination: 1, 2 "ON"
(Beginning or end line)

Switch - on "ON"	1	2	3	4	5	6	7
=	1	2	4	8	16	32	64

Switch 8 on "OFF".

Example: Adress 5: Switch 1 & 3 on "ON", others on "OFF".

PARAMETRES PROGRAMMABLES

Direction : Permits the definition of the counting direction of the encoder (CW or CCW) following its mechanical position.

Resolution : the number of points per turn can be between 0 and 8192, option: 0 to 65536.

Global resolution (MAX RANGE) : Total number of codes of the encoder (2 to 536 870 912, option 2 to 2 147 483 648).

Reset : defines the value of its actual position.

Time base : defines the base time for the speed calculation (10 ms , 100 ms , 1 s , speed in rpm).

CONNECTION

BUS IN (M12 - 5 male pinout B code)

Signal	NC	BUS A	NC	BUS B	NC
Pinout	1	2	3	4	5

NC : do not connect.

BUS OUT (M12 - 5 female pinouts B code)

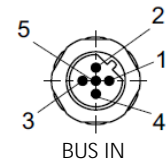
Signal	P5V	BUS A	BUS GND	BUS B	NC
Pinout	1	2	3	4	5

P5V & BUS GND for the connection of the end-line termination resistance.

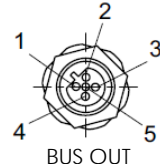
POWER SUPPLY (M12 - 4 male pinouts A code)

Signal	+Vcc	NC	0Vdc	NC
Pinout	1	2	3	4

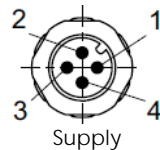
Power supply : 5-30V, consumption <200 mA (160mA typ)



BUS IN



BUS OUT



Supply

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

	Shaft Ø	Supply	Interface	Code	Resolution	Turns Nb	Connection	Orientation connectique
PHM5	10:	P :	BG :	B:	13 :	B16 :	BH:	R :
PXM5 Stainless steel encoder	10mm	5 to 30Vdc	Profibus	Binary	8192 points per turn (2 ¹³)	65 536 turns (2 ¹⁶)	3 connectors M12	radial
	06 :				Option 16 : 65 536 points per turn (2 ¹³)	B15 : 32768 turns (2 ¹⁵)		
Ex: PHM5_	10 //	P	BG	B //	13	B16 //	BH	R

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