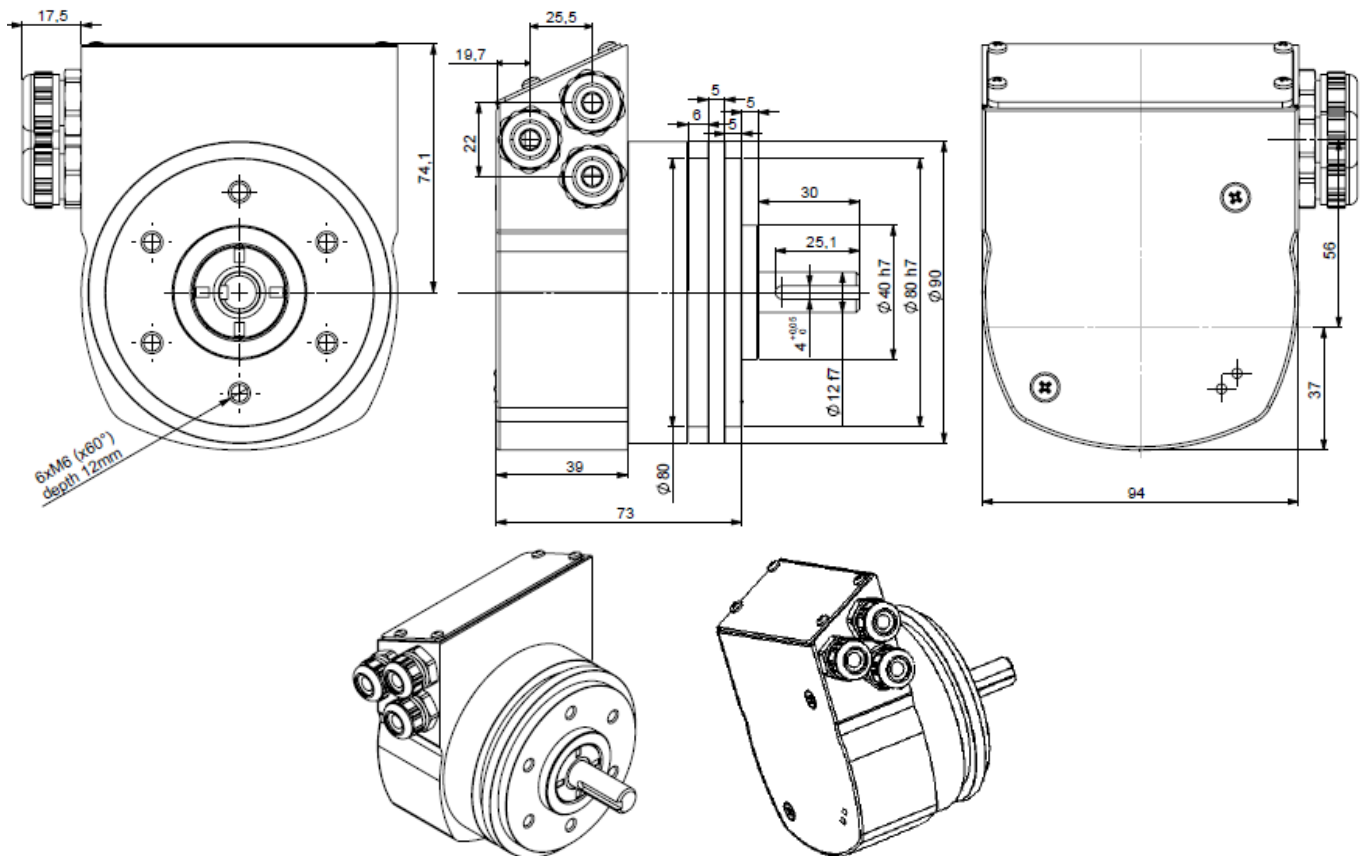# PHM9

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ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHM9

PHM9, 90mm encoder, the new generation of PROFIBUS heavy-duty multi-turn encoder:

- Heavy Duty version, 11 & 12 mm solid shaft,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature –20°C to +80°C.
- Universal electronic circuits from 5 to 30Vdc.
- High resolutions available: 8192 (13 bits) per turn.
- Turn counting up to 65 536 (16 bits).
- DPV0, Classe 2, Profil codeur 3.062.
- Also available with SSI, programmable SSI, RS232 interface & CANopen.

DIMENSION : PHM9 Profibus connection BTR (Terminal box)

MECHANICAL CHARACTERISTICS

Material	Cover : steel	Shocks (EN60068.2.27)	$\leq 500 m.s^{-2}$ (during 6 ms)
	Body: aluminium	Vibrations (EN60068.2.6)	$\leq 100 m.s^{-2}$ (10 ... 2 000 Hz)
Shaft	Stainless steel	EMC	EN 61000-6-4, EN 61000-6-2
Bearings	6001 serie	Isolation	100V (1 min.)
Maximal loads	Axial : 100 N	Encoder weight (approx.)	1,800 kg
	Radial : 200 N	Operating temperature	- 20 ... + 80 °C (encoder T°)
Shaft inertia	$\leq 15.10^{-6}$ kg.m²	Storage temperature	- 20 ... + 80 °C
Torque	$\leq 10.10^{-3}$ N.m	Protection(EN 60529)	IP 65
Permissible max. speed	6 000 min⁻¹	Theoretical mechanical lifetime 10⁹ turns (F_{axial} / F_{radial})		
Continuous max. speed	6 000 min⁻¹	20 N / 30 N	50 N / 100 N	100 N / 200 N
Shaft seal	Viton double lips	360	18	2,2

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PHM9

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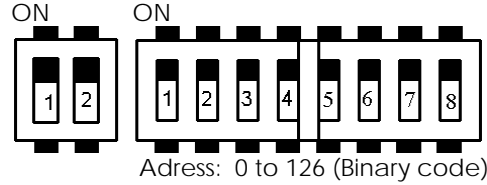## ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHM9 SERIE

GENERALITY

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

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).

Adress: 0 to 126 (Binary code)

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'', other 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 or points per turn can be between 0 and 8192.
Global resolution (MAX RANGE) : Total number of codes of the encoder (2 to 536 870 912).
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

Integrated terminal box on encoder – ''push-in'' connection – max 1,5mm².

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

	Shaft Ø	Supply	Interface	Code	Resolution	Tunrs Nb	Connection	Connection orientation
PHM9 Aluminium bearings housing **PBM9** Stainless steel bearings housing	**12**: 12mm	**P** : 5 to 30Vdc	**BG** : Profibus	**B**: Binary	**13** : 8192 points per turn (2^{13})	**B16** : 65 536 turns (2^{16})	**BT** : Terminal box	**R** : Radial
Ex: PHM9 _	**12 //**	**P**	**BG**	**B //**	**13**	**B16 //**	**BT**	**R**

Made in France

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