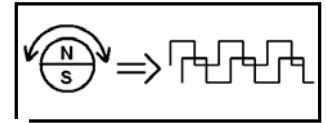
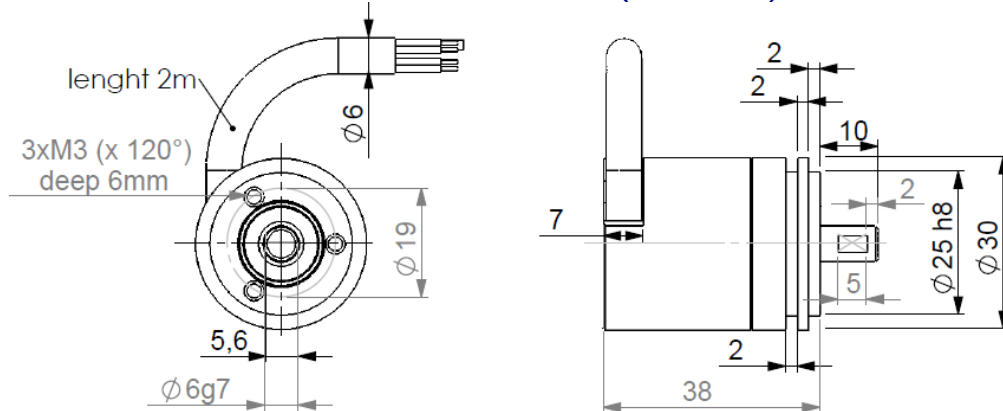


MAGNETIC INCREMENTAL ENCODERS, HMM3S RUGGED RANGE

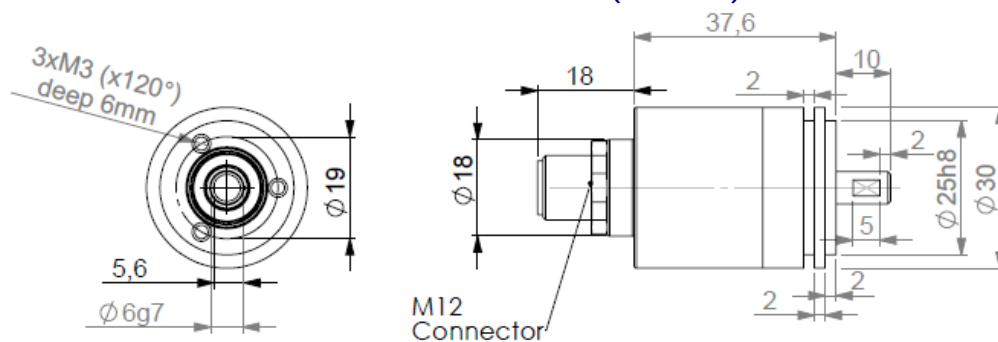
- With its 30mm size and a 6mm solid shaft, HMM3S encoder characterizes itself by its strong robustness of the mechanical and electro-magnetic parts, it's the most compact really industrial encoder with a solid shaft.
- Application fields : agriculture, construction, forestry vehicles, medical applications, solar panels...
- Magnetic technology for extreme temperature.
- Rugged design : IP67 with shaft seal and encapsulated electronic.
- Available resolution up to 1024 pulses per revolution.
- Universal supply 5 to 30Vdc available.
- Available in option : Extended temperature range (up to -40..+125°C), IP69K...



HMM3S connection G3R (radial cable)



HMM3S connection GMA (axial M12)



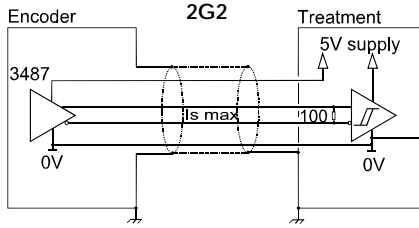
MECHANICAL CHARACTERISTICS

Material	Shaft: stainless steel	Isolation	2500Veff
	Cover: aluminium	EMC	EN 61000-6-4
	Body: aluminium		EN 61000-6-2
Bearings	696 series	Operating temperature	- 40... + 100 °C (at 5Vdc)
Maximal loads	Axial : 20 N	Storage temperature	- 40... + 100 °C
	Radial : 50 N	Protection	IP 67
Shaft inertia	$\leq 0,1 \cdot 10^{-6} \text{ kg} \cdot \text{m}^2$	Shocks (EN60068-2-27)	$\leq 2000 \text{ m} \cdot \text{s}^{-2}$ (during 6 ms)
Torque	$\leq 3 \cdot 10^{-3} \text{ N} \cdot \text{m}$	Vibrations (EN60068-2-6)	$\leq 200 \text{ m} \cdot \text{s}^{-2}$ (55 ... 2 000 Hz)
Nominal max. speed	4 500 min^{-1}	Theoretical mechanical lifetime 10^9 turns ($F_{\text{axial}} / F_{\text{radial}}$)	
Encoder weight (approx.)	0,150 kg	20 N / 50 N	15

MAGNETIC INCREMENTAL ENCODERS, HHM3S RUGGED RANGE

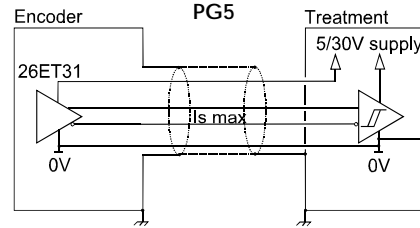


OUTPUT ELECTRONIC / POWER SUPPLY



2G2 electronic (100kHz)

Supply : 5Vdc \pm 10%
Cons. without load : 40mA max
Current per channel : 40mA max
0 max ($I_s=20mA$) : $V_{ol} = 0,5Vdc$
1 min ($I_s=20mA$) : $V_{oh} = 2,5Vdc$



PG5 electronic(100kHz)

Supply : 5 to 30Vdc
Cons. without load : 40mA max
Current per channel : 40mA max
0 max ($I_s=20mA$) : $V_{ol} = 0,5Vdc$
1min ($I_s=20mA$) : $V_{oh} = V_{cc}-3Vdc$

Protection against short circuits and inversion of polarity for the electronic PG5

STANDARD CONNECTION

		-	+	A	B	0	A/	B/	0/	Ground
G3	PVC cable, 8 wires 8230/020	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	Main shield
GL	M8 connector 4 pinouts	1	2	3	4	/	/	/	/	Connector body
GM	M12 connector 8 pinouts	1	2	3	4	5	6	7	8	Connector body
GP	PUR cable 12 wires 8230/050	WH white + WH/GN white/green	BU blue + BN/GN brown / green	GY grey	BN brown	RD red	PK pink	GN green	BK black	General shielding

ORDERING REFERENCE (Contact the factory for special versions , ex: stainless steel version, connections...)

	Shaft \varnothing	Sealing	Supply Output stage	Signals	Resolution	Connection	Connection orientation
HHM3S	06 : 6mm	OP : IP67 + Encapsulated electronic	2G2 : 5Vdc TTL / RS422 output	1 : A, B	1024 max	GM : M12 8 pinouts	A : axial
			PG5 : 5 to 30Vdc Push-pull output (TTL / RS422 available if encoder supply is 5Vdc)	9 : A, A/ B, B/ 0, 0/		GL : M8 4 pinouts G3 : PVC cable 8 wires GP : PUR cable 12 wires	
Ex: HHM3S	06 /	OP /	PG5	1 //	01024//	G3	A020

Available resolutions : 32 64 128 256 1024

Made in FRANCE