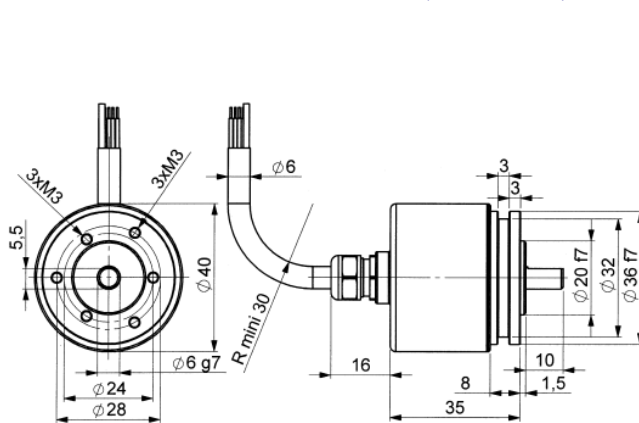


## INCREMENTAL ENCODERS, GHM4 RANGE

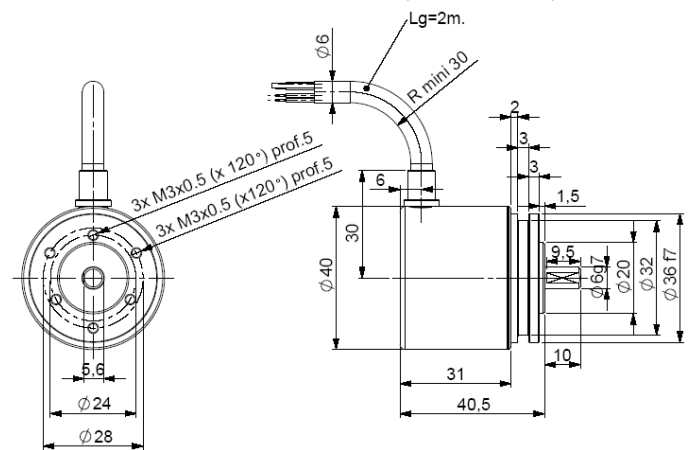
- With its 40mm size and a 6mm solid shaft, this encoder characterizes itself by its strength and robustness of the mechanical and opto-electronic components, it's the most compact truly industrial encoder with a solid shaft
- Coded discs in synthetic material are used: stable and unbreakable (Polyfass™, Mylar-Myca composite)
- Available resolution up to 2 500 counts per turn
- Universal electronics 5 to 24Vdc available
- Application fields : micro-robotics, printing machines, low power DC motors, shears...



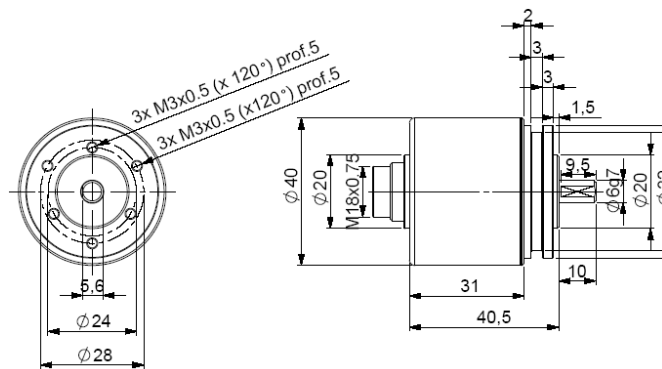
GHM4 connection G3A (axial cable)



GHM4 connection G3R (radial cable)



GHM4 connection G2A / GDA (axial DIN)



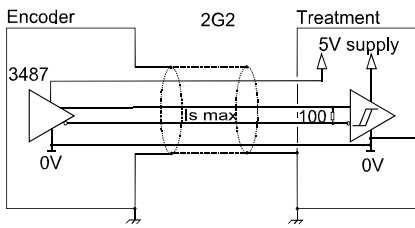
## CHARACTERISTICS

Material	Shaft: stainless steel
	Cover: aluminium
	Body: aluminium
Bearings	688 serie
Maximum loads	Axial : 10 N
	Radial : 20 N
Shaft inertia	$\leq 0,2 \cdot 10^{-6} \text{ kg} \cdot \text{m}^2$
Torque	$\leq 2 \cdot 10^{-3} \text{ N} \cdot \text{m}$
Permissible max. speed	12 000 $\text{min}^{-1}$
Continuous max. speed	9 000 $\text{min}^{-1}$
Encoder weight (approx.)	0,190 kg

EMC	EN 50082-2 (1995)
	EN 50081-1 (1992)
Isolation	1 000 Veff
Operating temperature	- 20... + 80 °C (encoder T°)
Storage temperature	- 40... + 80 °C
Protection CEI60529 (1989)	IP 54
Shocks (EN60068-2-27)	$\leq 300 \text{ m} \cdot \text{s}^{-2}$ (during 11 ms)
Vibrations (EN60068-2-6)	$\leq 100 \text{ m} \cdot \text{s}^{-2}$ (10 ... 500 Hz)
Theoretical mechanical lifetime $10^9$ turns ( $F_{\text{axial}} / F_{\text{radial}}$ )	
5 N / 10 N	263
10 N / 20 N	33

## INCREMENTAL ENCODERS, GHM4 RANGE

### OUTPUT ELECTRONIC / POWER SUPPLY



#### 2G2 electronic (100kHz)

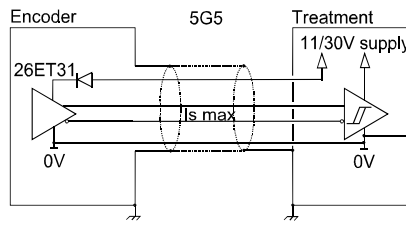
Supply : 5Vdc ± 10%

Cons. without load : 100mA max

Current per channel : 40mA max

0 max (Is=20mA) :  $V_{ol} = 0,5Vdc$

1 min (Is=20mA) :  $V_{oh} = 2,5Vdc$



#### 5G5 electronic (100kHz)

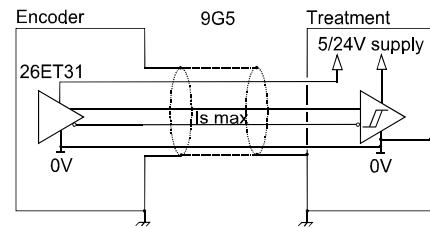
Supply : 11 to 30Vdc

Cons. without load : 75mA max

Current per channel : 40mA max

0 max (Is=20mA) :  $V_{ol} = 0,5Vdc$

1 min (Is=20mA) :  $V_{oh} = V_{cc}-3Vdc$



#### 9G5 electronic (100kHz)

Supply : 5 to 24Vdc

Cons. without load : 75mA max

Current per channel : 40mA max

0 max (Is=20mA) :  $V_{ol} = 0,5Vdc$

1 min (Is=20mA) :  $V_{oh} = V_{cc}-3Vdc$

Protection against short circuits of the electronics : 5G5 and 9G5

Protection against inversion of polarity for the electronics : 5G5

### 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	Blindage général
GD	DIN Connector 8 pinouts	1	2	3	4	5	6	7	8	Embase connectique
G2	DIN connector 5 pinouts	1	2	3	4	5	/	/	/	Embase connectique

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

	Shaft Ø	Available electronics		Output signals	Resolution	Connection	Connection orientation		
GHM4	06 : 6mm L6: 6mm 16mm length (option)	2G2, 5G5, 9G5		9:A,A/,B,B/,0,0/ (0 gated A & B)	2 500 max	GD : DIN 8pins G2 : DIN 5pins	A : axial		
		Supply	Output stage	A:A,A/,B,B/,0,0/ (0 gated A)		G3 : PVC cable wires 8	Example : R020: radial cable 2m A020: axial cable 2m		
		2 : 5Vdc 5 : 11 to 30Vdc 9 : 5 to 24Vdc	G2 : 5Vdc RS422 G5 : push-pull	N:A,A/,B,B/,0,0/ (0 ungated)					
Ex:GHM4	06	//	5	G5	9	//	2 500//	G3	R020

**Available resolutions :** 1 2 4 5 6 10 15 16 20 24 25 27 30 35 36 40 50 60 64 75 80 90 96 100 120 125 127 128 150 160 180 200 250 256 300 360 384 400 480 500 512 517 600 720 750 800 1000 1024 2500

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