

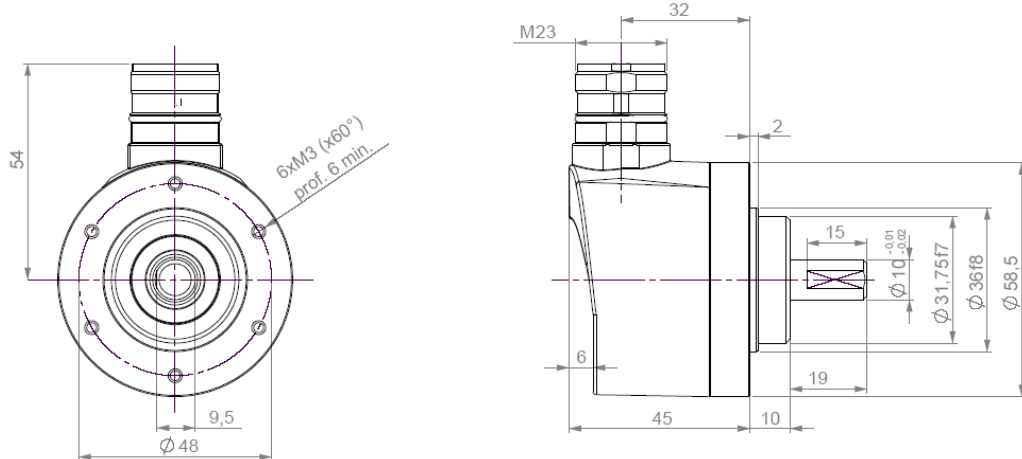
## INCREMENTAL ENCODERS, GHM5 RANGE

Ø58mm european standard encoders :

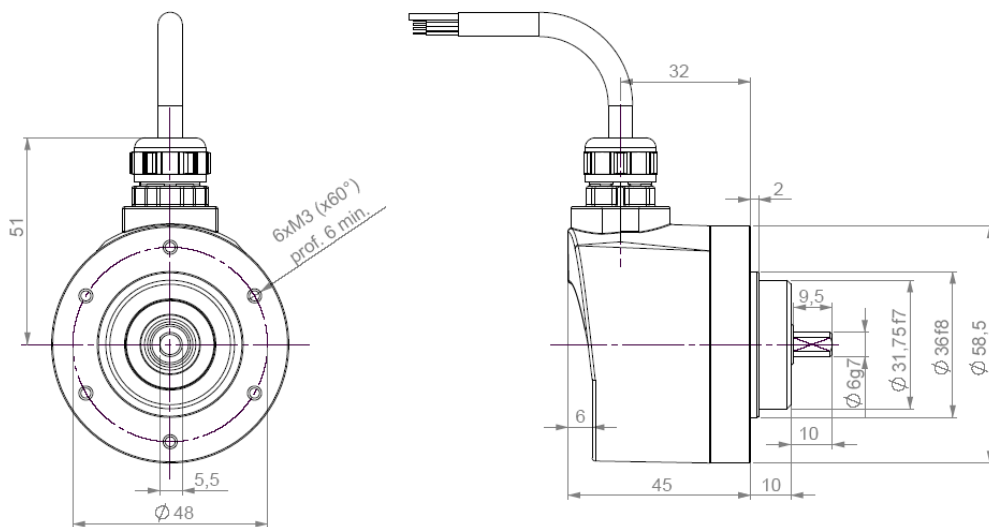
- Robustness and excellent resistance to shocks / vibrations
- High protection level IP65, IP67 option with a sealing flange
- High resolutions available : up to 10 000 ppr
- Unbreakable Polyfass disc (Mylar-Mica composite)
- Flanges and shaft adapted to the market needs



### GHM5\_10 radial M23 connection



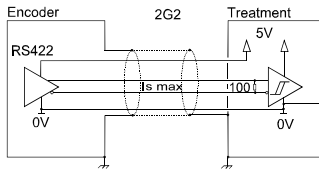
### GHM5\_06 radial cable output



Material	Cover : zinc alloy	Shocks (EN60068-2-27)	≤ 500 m.s <sup>-2</sup> (during 6 ms)
	Body : aluminium	Vibrations (EN60068-2-6)	≤ 100 m.s <sup>-2</sup> (55 ... 2 000 Hz)
	Shaft : stainless steel	EMC	EN 50081-1, EN 61000-6-2
Bearings	6 900 serie	Isolation	1 000 V eff
Maximal loads	Axial : 50 N	Encoder weight (approx.)	0,300 kg
	Radial : 100 N	Operating temperature	- 20 ... + 80°C (encoder T°)
Shaft inertia	≤ 1,2.10 <sup>-6</sup> kg.m <sup>2</sup>	Storage temperature	- 30 ... + 80°C
Torque	≤ 8.10 <sup>-3</sup> N.m	Protection(EN 60529)	IP 65 (IP67 with flange option)
Permissible max. speed	12 000 min <sup>-1</sup>	Theoretical mechanical lifetime 10 <sup>9</sup> turns (F <sub>axial</sub> / F <sub>radial</sub> )	
Continuous max. speed	9 000 min <sup>-1</sup>	25 N / 50 N	50 N / 100 N
Shaft seal	P.T.F.E	21	2,6

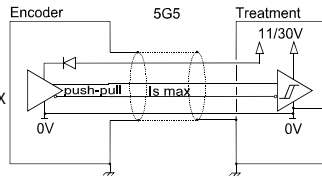
## INCREMENTAL ENCODERS, GHM5 RANGE

### DIGITAL OUTPUT SIGNALS (SQUARE WAVE SIGNALS)



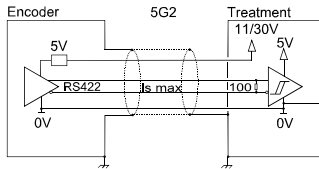
#### 2G2 electronic

Supply : 5Vdc  $\pm 10\%$   
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max ( $I_s=20mA$ ) :  $V_{ol} = 0,5Vdc$   
1 min ( $I_s=20mA$ ) :  $V_{oh} = 2,5Vdc$



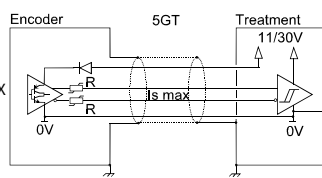
#### 5G5 electronic

Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max ( $I_s=20mA$ ) :  $V_{ol} = 0,5Vdc$   
1 min ( $I_s=20mA$ ) :  $V_{oh} = V_{cc}-3Vdc$



#### 5G2 electronic

Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max ( $I_s=20mA$ ) :  $V_{ol} = 0,5Vdc$   
1 min ( $I_s=20mA$ ) :  $V_{oh} = 2,5Vdc$



#### 5GT electronic

Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max ( $I_s=20mA$ ) :  $V_{ol} = 1,5Vdc$   
1 min ( $I_s=20mA$ ) :  $V_{oh} = V_{cc}-2,5Vdc$

The 5GT electronic can drive long length of cables (consult us)

Protection against short circuits of the electronics: 5G5, 5GT  
Protection against reverse polarity for all the electronics except 2G2

### STANDARD CONNECTION

		-	+	A	B	0	A/	B/	0/	Ground
G6	12 pins CW	1	2	3	4	5	6	7	8	Connector Body
G8	12 pins CCW	10 + 11	2 + 12	8	5	3	1	6	4	Connector Body
G3	PVC cable 8 wires 8230/020	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding
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: electronics, special flanges, connections...)

	Shaft Ø	Available electronics		Output signals	Resolution	Connection	Connection orientation			
<b>GHM5</b> <b>GBM5</b> Stainless steel body Zinc alloy cover <b>GXM5</b> Stainless steel cover & body	<b>06:</b> 6mm	<b>2G2, 5G2, 5G5, 5GT</b>		<b>9:</b> A,A/,B,B/,0,0/ (0, A&B gated) <b>A:</b> A,A/,B,B/,0,0/ (0, A gated) <b>N:</b> A,A/,B,B/,0,0/ (0 ungated)	<b>2 500</b> max	<b>G6:</b> M23 12pins CW <b>G8:</b> M23 12pins CCW <b>G5:</b> M23 12pins CW <b>G1:</b> 4pins solenoid <b>G2:</b> DIN 5 pinouts <b>GD:</b> DIN 8 pinouts	<b>R:</b> radial			
	<b>08:</b> 8mm	<b>Supply</b>	<b>Output stage</b>							
	<b>09:</b> 9,52mm	2.5Vdc	<b>G2:</b> driver 5Vdc RS422 <b>G5:</b> push-pull 5-30Vdc							
	<b>10:</b> 10mm	5:11 - 30Vdc	<b>GT:</b> transistorized push-pull 11-30Vdc			<b>G3:</b> PVC cable, 8wires <b>GP:</b> PUR cable, 12wires	Example: <b>R020:</b> radial cable 2m			
<b>Ex: GHM5</b>	<b>10</b>	<b>//</b>	<b>5</b>	<b>G5</b>	<b>9</b>	<b>//</b>	<b>2 500</b>	<b>//</b>	<b>GP</b>	<b>R020</b>

**Available resolutions** 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 19 20 21 23 24 25 26 27 28 29 30 32 33 34 35 36 37 38 40 41 42 43 44 45 48 49 50 52 53 54 55 56 57 58 60 61 62 63 64 66 67 68 69 70 71 72 73 75 78 80 81 84 85 86 87 90 91 92 94 95 96 97 99 100 104 108 109 110 113 114 119 120 122 125 127 128 129 130 131 132 140 147 150 152 155 157 160 167 168 170 176 179 180 182 183 185 188 190 191 192 194 196 200 205 208 209 215 216 217 220 223 226 230 236 240 243 245 246 248 250 251 254 255 256 260 264 273 280 284 285 290 292 300 305 310 314 318 320 325 330 331 333 334 335 340 343 350 355 360 364 367 370 375 380 381 385 392 393 397 400 408 410 420 427 430 450 452 455 470 471 475 480 489 500 512 515 516 520 521 530 534 545 560 565 572 580 600 620 625 628 635 660 672 675 700 712 720 722 730 745 750 754 762 768 785 792 800 819 840 850 864 880 889 895 900 914 927 942 960 1000 1016 1024 1100 1125 1131 1143 1147 1152 1200 1225 1250 1270 1280 1300 1440 1500 1524 1600 1680 1700 1750 1800 1872 1885 1895 1920 2000 2048 2064 2100 2160 2250 2256 2400 2480 2500

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