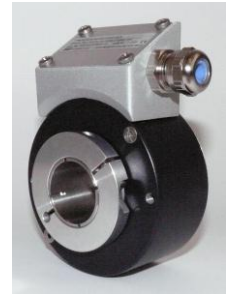


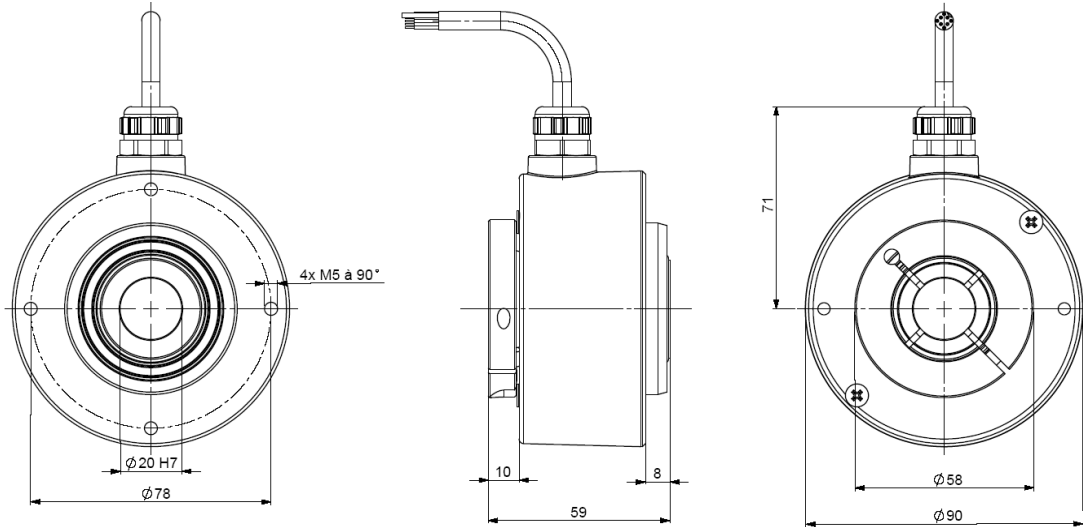
## INCREMENTAL ENCODERS, GHU9 RANGE

- Especially designed for heavy-duty (steel, paper, wood – mills, cranes...), compact and robust conception, its connection can be done with industrial connector or shield cable
- Various standard and specials electronics: push-pull 11-30V (HTL) & 5VRS422 (TTL); for long, high capacity cables: push-pull 11-30V transistorised
- Hollow shaft of up to 30mm, adaptation of the bore size with composite hub for thermal and electric insulation (aluminium hubs in option)
- Digital incremental signals, option - analogue output signals (Tachoencoders, optotachos)
- Self-monitoring MaxControl (optional) : detection of shocks, vibrations, temperatures
- Double/triple mounting in combinations of incremental, absolute, analogue signals, mechanical over-speed switch

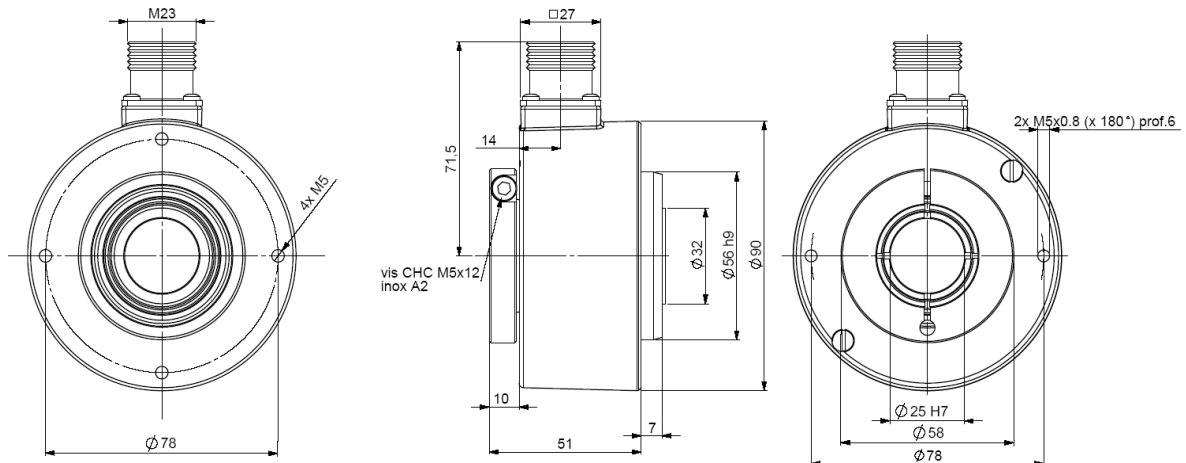


New : terminal box option

### GHU9\_20 connection G3R (radial cable output), with reduction hub 9418/120 mounted in the shaft



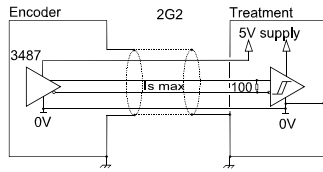
### GHU9\_25 connection G6R (radial M23), with reduction hub 9418/125 mounted in the shaft



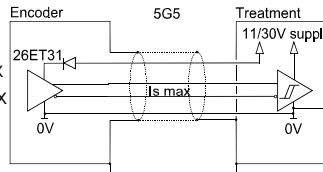
Material	Cover : zinc alloy	Vibration (EN60068-2-6)	≤ 200 m.s <sup>-2</sup> (10 ... 1 000 Hz)
Stainless steel option	Body : aluminium	EMC	EN 50081-1, EN 61000-6-2
Shaft	Inox	Isolation	1 000 Veff
Bearings	6807 serie	Encoder weight (approx.)	0,700kg zinc alloy cover, alu body 1,000kg zinc alloy cover, stainless steel body 1,200kg stainless steel cover and body
Maximum loads	Axial : 50 N Radial : 80 N	Operating temperature	- 20 ... + 80 °C (Encoder T°)
Shaft inertia moment	≤ 55.10 <sup>-6</sup> kg.m <sup>2</sup>	Storage temperature	- 40 ... + 80 °C
Torque	≤ 25.10 <sup>-3</sup> N.m	Protection(EN 60529)	IP 65
Permissible max. speed	6 000 min <sup>-1</sup>	Torque (ring screw)	nominal: 3N.m, break: 4N.m
Continuous max. speed	3 600 min <sup>-1</sup>	Theoretical mechanical lifetime 10 <sup>9</sup> turns (F <sub>axial</sub> / F <sub>radial</sub> )	
Shaft seal	Viton	25 N / 40 N : 140	50 N / 80 N : 17
Shocks (EN60068-2-27)	≤ 2 000 m.s <sup>-2</sup> (during 6 ms)		

## INCREMENTAL ENCODERS, GHU9 RANGE

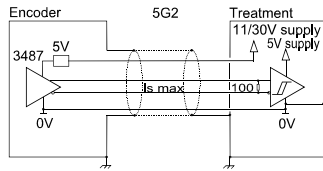
### OUTPUT ELECTRONIC / SUPPLY



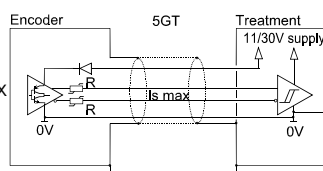
**2G2 electronic (100kHz)**  
Supply : 5Vdc ± 10%  
Cons. without load : 100mA max  
Current per channel : 40mA max  
0 max (Is=20mA) :  $V_{ol} = 0,5Vdc$   
1 min (Is=20mA) :  $V_{oh} = 2,5Vdc$



**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) :  $V_{oh} = V_{cc}-3Vdc$



**5G2 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) :  $V_{oh} = 2,5Vdc$



**5GT electronic, optional (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) :  $V_{oh} = V_{cc}-2,5Vdc$

Electronics 5GT is designed for long and high capacity cables (contact our factory)

Available in option :

- 3G3 electronic, supply between 15 and 30Vdc, push-pull output regulated 12Vdc
- 5GH electronic permits to drive different inputs (plc + display for example)

Protection against short circuits the electronics: 5G5, 5GT, 3G3

Protection against inversion of polarity for all the electronics except 2G2

Option "Max control" : the encoder gives on real time its physical environment parameters: shocks and vibrations, too high or too low temperature, too low or too high supply, quality of the output signals : upon request..



### STANDARD CONNECTION

		-	+	A	B	0	A/	B/	0/	Ground
G6	M23 - 12 pins CW	1	2	3	4	5	6	7	8	connector body
G8	M23 - 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 bleu	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: overspeed switch, electronics, special flanges, connections ...)

	Shaft Ø	Available electronic		Output signal	Resolution	Connection	Connection orientation			
<b>GHU9</b> Cover : zinc Body alu	30: 30mm  Nota: reduction hubs available	<b>2G2, 5G2, 5G5, 5GT, 5GH, 3G3</b>		<b>9</b> : A,A/,B,B/,0,0/ (0, A&B gated)	<b>10 000</b> max	<b>G6</b> : M23 12 pins CW <b>G5</b> : M23 12 pins CW <b>G8</b> : M23 12 pins CCW <b>GT</b> : terminal box	<b>R</b> : radial			
<b>GBU9</b> Cover : zinc Body: stainless steel		<b>Supply</b>	<b>Output stages</b>							
<b>GXU9</b> Cover and body: stainless steel	32: 32mm option consult us	<b>2</b> : 5Vdc	<b>G2</b> : driver 5Vdc RS422 <b>G3</b> : driver 12Vdc	<b>A</b> : A,A/,B,B/,0,0/ (0, A gated)						
		<b>5</b> : 11 to 30Vdc	<b>G5</b> : push-pull <b>GT</b> : push-pull 11-30Vdc transistorised					<b>N</b> : A,A/,B,B/,0,0/ (0 ungated)		
		<b>3</b> : 15 to 30Vdc	<b>GH</b> : push-pull 11-30Vdc 150 mA			<b>G3</b> : PVC cable 8 wires <b>GP</b> : PUR cable 12 wires	Example: <b>R020</b> : axial 2m cable			
<b>Ex: GHU9</b>	<b>30</b>	<b>//</b>	<b>5</b>	<b>G5</b>	<b>9</b>	<b>//</b>	<b>5 000</b>	<b>//</b>	<b>GP</b>	<b>R050</b>

**Available resolutions** : 1 2 3 4 5 6 7 8 9 10 12 13 14 15 16 19 20 21 24 25 26 28 29 30 32 35 36 39 40 43 45 46 48 50 54 56 58 60 62 63 64 66 67 70 72 74 75 76 80 84 86 88 89 90 91 94 96 100 107 110 120 122 123 125 127 128 130 132 135 138 140 147 150 157 159 160 168 169 170 172 175 180 188 191 196 200 201 205 220 222 225 234 240 241 242 245 246 248 250 254 255 256 258 259 267 268 275 283 285 295 300 305 314 315 318 320 330 340 350 360 367 375 378 380 381 388 390 397 400 405 410 424 425 438 443 450 471 480 489 495 500 505 512 515 534 540 550 565 580 600 623 625 628 630 632 635 650 660 700 720 746 750 752 754 800 810 840 860 880 891 900 942 990 1000 1024 1080 1100 1131 1200 1225 1250 1260 1280 1290 1400 1414 1440 1500 1536 1570 1600 1620 1630 1750 1800 1885 2000 2048 2250 2400 2500 2640 3000 3456 3600 3680 3750 4000 4096 4500 4900 5000 7200 9000 10000

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