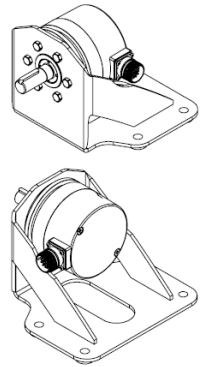
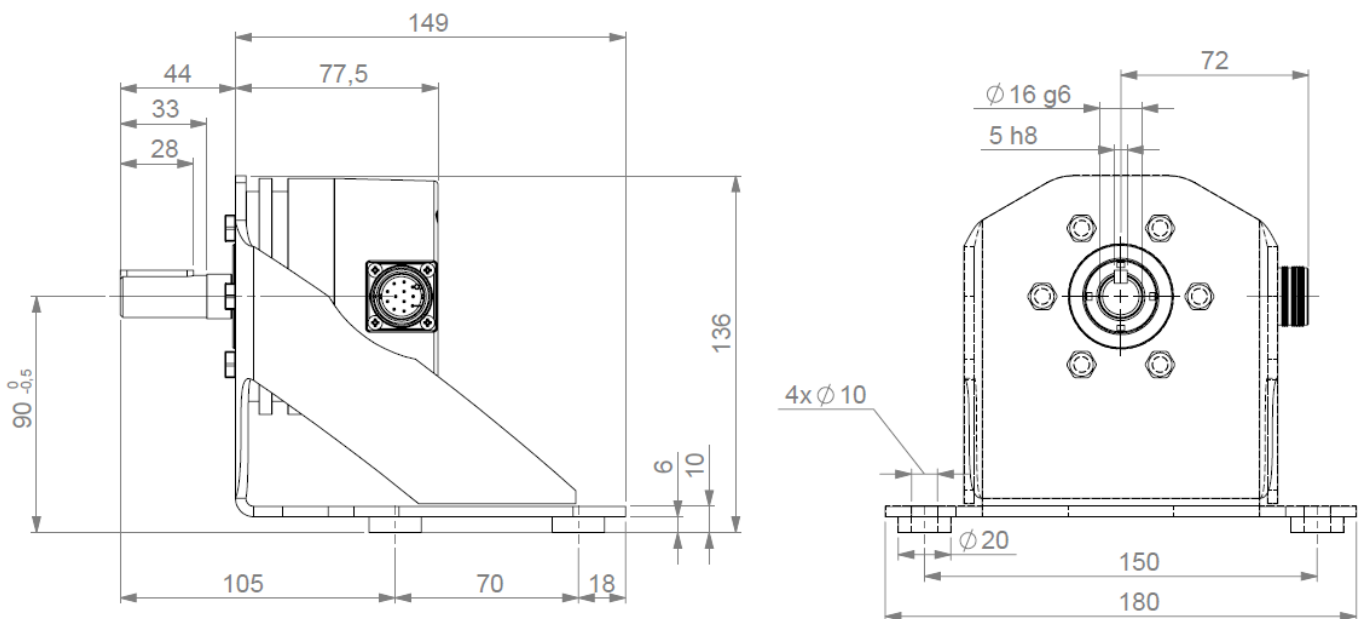


## INCREMENTAL ENCODERS, GHM9S16 RANGE

- Especially designed for heavy duty applications: steel and paper mills, lumber, cranes, etc...
- Solid shaft 16 mm.
- Excellent resistance to shocks/vibrations and to extreme axial/radial loads.
- High protection level: IP65.
- Connection with cable or connectors output.
- Electronic compatible with industrial standards.
- Digital incremental output, optional analog output (tachocoders, optotacho).
- Resolution up to 5000.



### GHM9S16//5GT9//00600//G6R//C300D4 DIMENSIONS

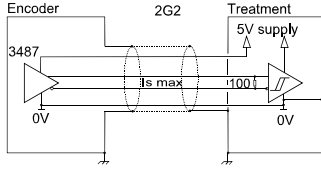


### MECHANICAL CHARACTERISTICS

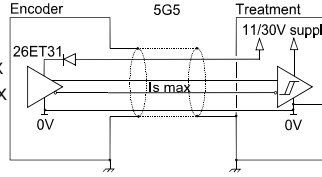
Material	Cover : zinc alloy	Shock (EN60068-2-27)	≤ 2 000 m.s <sup>-2</sup> (during 6ms)
	Body: aluminium	Vibration (EN60068-2-6)	≤ 200 m.s <sup>-2</sup> (10 ... 1 000 Hz)
Shaft an bracket	Stainless steel	EMC	EN 50081-1, EN 61000-6-2
Bearings	Ball bearings	Isolation	1 000 Veff
Maximal loads	Axial : 100 N	Weight	2,5 kg
	Radial : 200 N	Operating temperature	- 20 ... + 80 °C (Encoder T°)
Shaft inertia moment	≤ 15.10 <sup>-6</sup> kg.m <sup>2</sup>	Storage temperature	- 40 ... + 80 °C
Torque	≤ 10.10 <sup>-3</sup> N.m	Protection(EN 60529)	IP 65
Permissible max. speed	9 000 min <sup>-1</sup>	Theoretical mechanical lifetime (F <sub>axial</sub> / F <sub>radial</sub> )	
Continuous max. speed	6 000 min <sup>-1</sup>	50 N / 100 N	30 . 10 <sup>9</sup> turns
Shaft seal	Viton double lips	100 N / 200 N	2,5 . 10 <sup>9</sup> turns

## INCREMENTAL ENCODERS, GHM9S16 RANGE

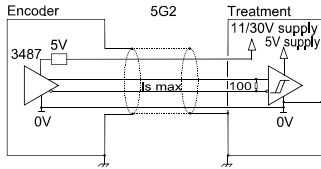
### OUTPUT ELECTRONIC / SUPPLY



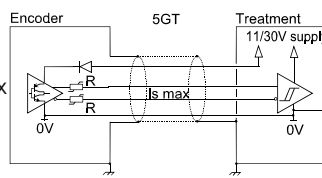
**2G2 electronic (100kHz)**  
Supply : 5Vdc ± 10%  
Cons. without load : 100mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>oi</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = 2,5Vdc



**5G5 electronic (100kHz)**  
Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>oi</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = V<sub>cc</sub>-3Vdc



**5G2 electronic (100kHz)**  
Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>oi</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = 2,5Vdc



**5GT electronic, optional (100kHz)**  
Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>oi</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = V<sub>cc</sub>-2,5Vdc

5GT electronic permits to drive long cable (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 for electronics: 5G5, 5GT, 3G3.  
Protection against polarity inversion for all 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 CODE** (ex: GHM9S16//5GT9//00600//G6R//C300D4)

	Shaft Ø	Available electronic		Output signal	Resolution	Connection	Connection orientation	Special
GHM9S	16 : 16mm	2G2, 5G2, 5G5, 5GT, 5GH, 3G3		9 : AA/ BB/ 00/ (0, A&B gated)	5 000 max	G6 : M23 12 pins CW G8 : M23 12 pins CCW GP : PUR cable 12 wires G3 : PVC cable 8 wires	R : radial Example : R020 : radial cable 2m	C300D4: Key Square flange Special mechanics
		Supply	Output stage					
		2 : 5Vdc 5 : 11 to 30Vdc 3 : 15 to 30Vdc	G2 : driver 5Vdc RS422 G3 : driver 12Vdc G5 : push-pull GT : push-pull transistorized GH : push-pull 150 mA					
Ex: GHM9S	16 //	5	GT	9 //	00600 //	G6	R //	C300D4

### 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

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