



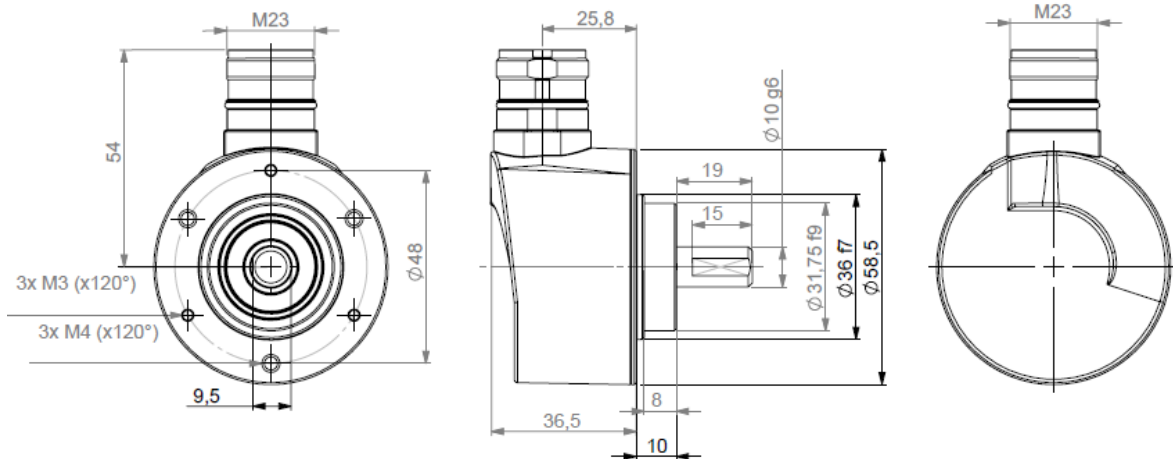
## MAGNETIC INCREMENTAL ENCODERS, HHM5 RANGE

Ø58mm european standards magnetic encoders. It characterizes itself by its strong robustness of the mechanical and electro-magnetic parts :

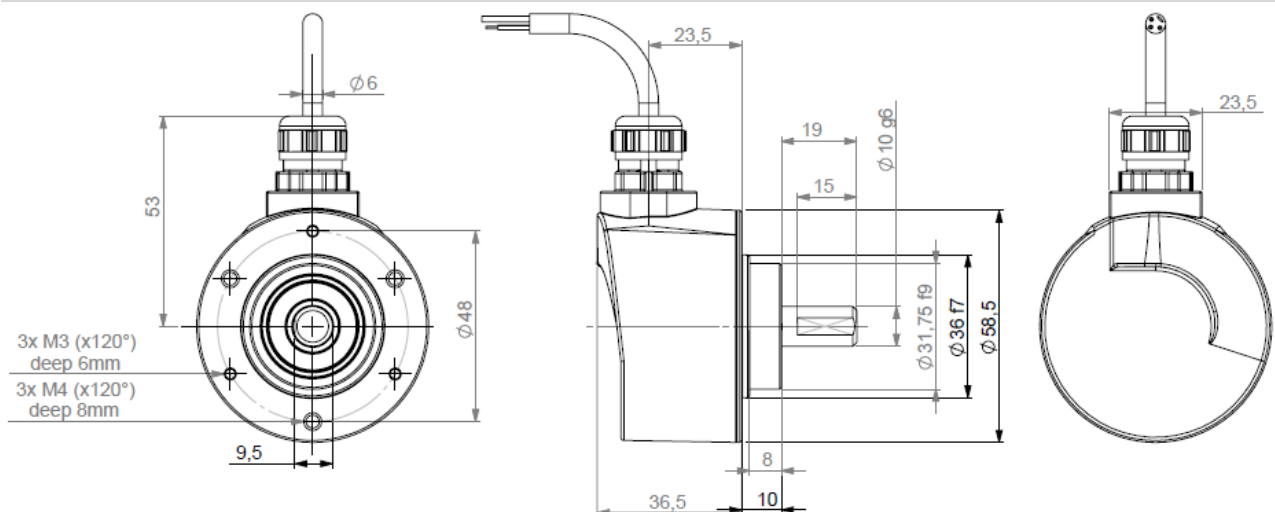
- Application fields : agriculture, construction, forestry vehicles, medical applications, solar panels...
- Magnetic technology, contactless.
- Robustness and excellent resistance to shocks / vibrations.
- High protection level IP65.
- Resolutions available : up to 1024ppr.
- Flanges and shaft adapted to the market needs.
- Universal electronic 5 to 30Vdc available.
- Available in option : Extended temperature range (up to -40..+125°C), IP67/IP69K...



HHM5\_10 with G6R connection (radial M23)



HHM5\_10 with G3R connection (radial cable)



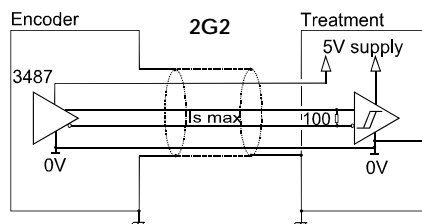
### MECHANICAL CHARACTERISTICS

|                          |  |   |  |              |                   |
|--------------------------|--|---|--|--------------|-------------------|
| Material                 | Shaft: Stainless steel                   | Isolation   | 500 Veff                                 |              |                   |
|                          | Cover: Zinc alloy                        |   | EMC                                      | EN 61000-6-4 |                   |
|                          | Body: aluminium                          |   |  | EN 61000-6-2 |                   |
| Bearings                 | 6 000 series                             | Operating temperature   | - 40... + 100 °C (at 5 Vdc)              |              |                   |
| Maximal loads            | Axial : 100 N                            | Storage temperature   | - 40... + 100 °C                         |              |                   |
|                          | Radial : 200 N                           | Protection  | IP 65                                    |              |                   |
| Shaft inertia            | ≤ 0,4.10 <sup>-6</sup> kg.m <sup>2</sup> | Shocks (EN60068-2-27)   | ≤ 2000m.s <sup>-2</sup> (during 6 ms)    |              |                   |
| Torque                   | ≤ 7.10 <sup>-3</sup> N.m                 | Vibrations (EN60068-2-6)  | ≤ 200m.s <sup>-2</sup> (55 ... 2 000 Hz) |              |                   |
| Nominal max. speed       | 6 000 min <sup>-1</sup>                  | Theoretical mechanical lifetime (turns) (F <sub>axial</sub> / F <sub>radial</sub> ) |  |              |                   |
| Encoder weight (approx.) | 0,300 kg                                 | 50 N / 100 N  | 25.10 <sup>9</sup>                       | 100N / 200N  | 3.10 <sup>9</sup> |



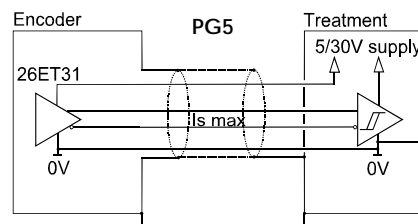
## MAGNETIC INCREMENTAL ENCODERS, HHM5 RANGE

### 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       |
| G6 | M23 connector               | 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 $\varnothing$ | Supply Output stage   | Signals                          | Resolution | Connection              | Connection orientation  |
|-----------|---------------------|---|----------------------------------|------------|-------------------------|-------------------------|
| HHM5      | 06 : Shaft 6mm      | 2G2 : 5Vdc<br>TTL / RS422 output  | 9 :<br>A, A/,<br>B, B/,<br>0, 0/ | 1024 max   | G3 : PVC cable 8 wires  | A020 : axial cable 2m   |
|           | 10 : Shaft 10mm     | PG5 : 5 to 30Vdc<br>Push-pull output<br>(TTL / RS422 available if encoder supply is 5Vdc) |                                  |            | GP : PUR cable 12 wires | R020 : radial cable 2m  |
|           |                     |   |                                  |            | G6 : M23 connector      | A : Axial<br>R : Radial |
| Ex: HHM5_ | 10 //               | PG5   | 9 //                             | 01024 //   | G3                      | A020                    |

Available resolutions : 32 64 128 256 1024

Made in FRANCE