

ATEX INCREMENTAL ENCODER FOR ZONE 22, DHM5 FIXED RESOLUTION RANGE

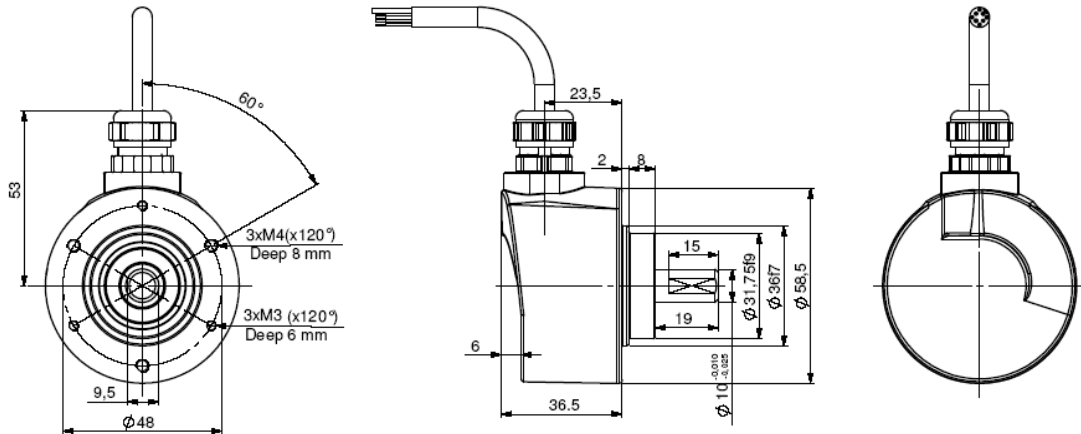
DIGISINE™ encoder specially designed for explosive DUSTS

ZONE 22 : II 3 D IP65 T135°C

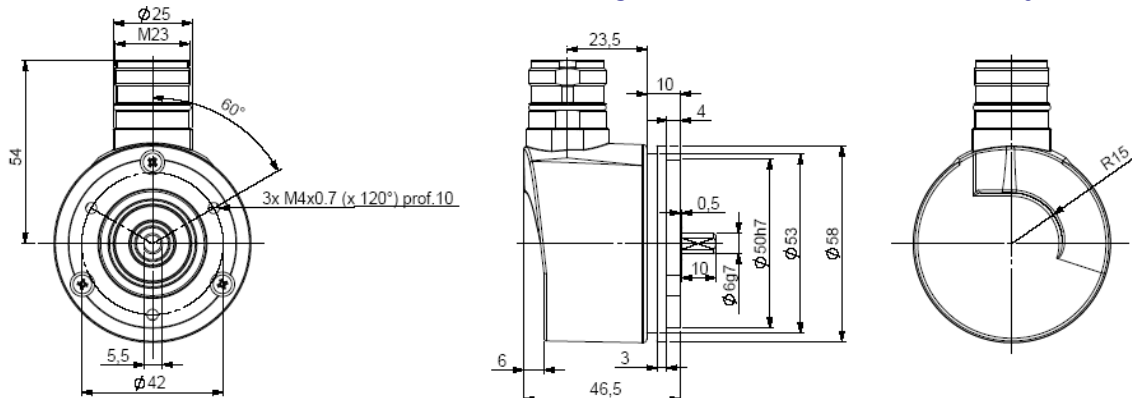
- Robustness and excellent resistance to shocks / vibrations
- High protection level IP65, IP67 option with a sealing flange
- High resolutions available : up to 80 000 cpt
- Universal electronic circuits from 5 to 30 Vdc
- High performances in temperature -30°C to 100°C (option -40°C)
- High performances in frequency of output signals : 300 kHz



DHM5_10 connection G3R (radial cable)



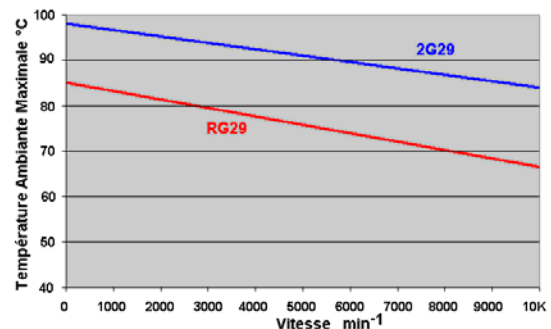
DHM5_06 connection G6R (radial M23), flange 9500/003 mounted onto the body



* Accessory to be ordered separately

Material	Cover : zinc alloy
	Body : aluminium
	Shaft : stainless steel
Bearings	6 000 serie
Maximal loads	Axial : 50 N
	Radial : 100 N
Shaft inertia	$\leq 1.10^{-6}$ kg.m ²
Torque	$\leq 4.10^{-3}$ N.m
Shock (EN60068-2-27)	≤ 500 m.s ⁻² (during 6 ms)
Vibration (EN60068-2-6)	≤ 100 m.s ⁻² (55 ... 2 000 Hz)
EMC	EN 50081-1, EN 61000-6-2
Isolation	1 000 Veff
Weight (approx.)	0,3 kg
Protection(EN 60529)	IP 65 (IP67 flange option)
Theoretical mechanical lifetime 10 ⁹ turns (F _{axial} / F _{radial})	
25 N / 50 N : 99	25 N / 50 N : 99

Permissible max. speed	9 000 min ⁻¹
Continuous max. speed	9 000 min ⁻¹
Storage temperature	- 30 ... + 100 °C
Operating temperature	Cf graph below

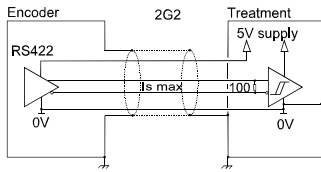


The encoder heating depends of the rotation speed of the shaft, the encoder electronic, the cable used, the length of the cable ; please consult us

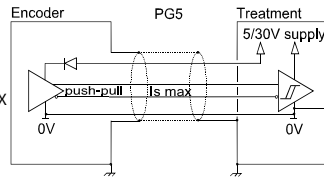
Nota : The RG2 electronic presents the maximal heating in all the possible cases

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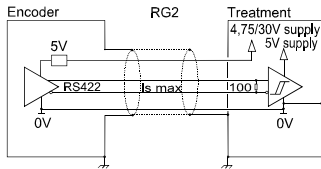
DIGITAL OUTPUT SIGNALS (SQUARE WAVE SIGNALS)



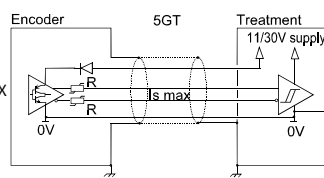
Electronic 2G2 (100°C, 300kHz)
Supply : 5Vdc ± 10%
Cons. without load : 75mA max
Current per channel : 40mA max
0 max (Is=20mA) : $V_{ol} = 0,5Vdc$
1 min (Is=20mA) : $V_{oh} = 4Vdc$



Electronic PG5 (100°C, 300kHz)
Supply : 5 to 30Vdc
Cons. without load : 75mA max
Current per channel : 40mA max
0 max (Is=20mA) : $V_{ol} = 0,5Vdc$
1 min (Is=20mA) : $V_{oh} = V_{cc}-2,5Vdc$

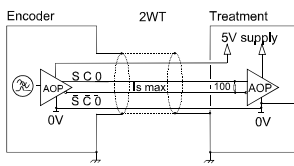


Electronic RG2 (100°C, 300kHz)
Supply : 4,75 to 30Vdc
Cons. without load : 75mA max
Current per channel : 40mA max
0 max (Is=20mA) : $V_{ol} = 0,5Vdc$
1 min (Is=20mA) : $V_{oh} = 4Vdc$



Electronic 5GT (70°C, 120kHz)
Supply : 11 to 30Vdc
Cons. without load : 75mA max
Current per channel : 40mA max
0 max (Is=20mA) : $V_{ol} = 1,5Vdc$
1 min (Is=20mA) : $V_{oh} = V_{cc}-2,5Vdc$

SINE WAVE OUTPUT SIGNALS



Electronic 2WT (100°C)
Supply : 5Vdc ± 10%
Cons. without load : 75mA max
Output signals :
1Vpp (peak to peak)

ELECTRONIC PROTECTIONS

Protection against short circuits of the electronics: 2G2, RG2, PG5, 5GT and 2WT
Protection against reverse polarity for all the electronics except 2G2 and 2WT

Consult us for special electronics : programmable resolution...

STANDARD CONNECTIONS

		-	+	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 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 5-36V, special flanges, connections...)

DHM5S	Ø axe	Digital signals (Square wave)			Connection	Connection orientation	
		Electronics : 2G2, PG5, RG2, 5GT	Output signals	resolution			
DHM5S	06/EX/ : 6mm 10/EX/ : 10mm 08/EX/ : 8mm (option)	Electronics : 2G2, PG5, RG2, 5GT	Output signals	resolution	G6: M23 12 pins CW G5: M23 12 pins CW G8: M23 12 pins CCW G1: solenoid valve 4 pins G2: DIN 5 pins GD: DIN 8 pins GP: PUR cable 12 wires G3: PVC cable 8 wires	R: radial	
		Supply	Output stage	9: A,A/,B,B/,0,0/ (0 gated A & B)			
		2: 5Vdc	G2: driver 5Vdc RS422				80 000 max
		5: 11 to 30Vdc P: 5 to 30Vdc R: 4.75 to 30Vdc	G5: push-pull 5-30Vdc GT: transistorized push-pull 11-30Vdc				
Sine-wave signals					Example : R020: radial cable 2m		
2: 5Vdc	WT: sine 1Vpp	9: S,S/,C,C/,Z,Z/	2 500 max				
Ex: DHM5S	10/EX /	P	G5	9 //	80 000 //	GP	R020

Available resolutions (100°C electronic) : 50 60 100 120 125 127 150 180 200 240 250 256 300 314 360 375 400 500 512 600 720 750 768 800 927 1000 1024 1200 1250 1280 1440 1500 1800 2000 2048 2400 2500 3000 3600 4000 4096 5000 6000 7200 8000 8192 10000

Interpolated available resolutions (70°C electronic) : 1080 2560 2880 3072 4320 5120 7500 5760 9000 10240 10800 12000 12500 12288 14400 15000 16000 16384 18000 20000 20480 24000 25000 28800 30000 32000 32768 36000 40000 40960 43200 48000 49152 50000 57600 60000 64000 65536 80000

Available resolutions sine-wave signals (100°C electronic) : 250 256 360 500 1024 2500

Nota : The maximal resolution with the 5GT electronic is 5 000 pulses per turn (non available electronic with interpolation)

DO NOT CONNECT / DISCONNECT / OPEN UNDER POWER SUPPLY, IN DUST ATMOSPHERE

Made in FRANCE

ATEX INCREMENTAL ENCODER FOR ZONE 22, DHM5 FIXED RESOLUTION RANGE

1 Déclaration de conformité CE

2 Nous,
Société **Bei Sensors**
9 rue de Copenhague Schiltigheim
67013 Strasbourg
France
certifions que ce matériel : codeurs pour zone 22,
type DHM5, DHO5, DHK5 ,GHT51 et KHO5(2G29)

3 Avec les inscriptions suivantes :



II 3 D
IP65 T135°C

A été conçu et fabriqué conformément à
La directive applicable suivante :
- ATEX directive 94/9/CE
- Directive CEM 89/336/CEE

4 La certification a été obtenu grâce à l'application
des normes suivantes :

- EN 13980 (2002)
- EN 60079-0 (2006)
- EN 60079-1 (2006)
- EN 61241-0 (2004)
- EN 61241-1 (2004)

Normes précédentes :

- EN 50014 (1997) + amendements 1 et 2
- EN 50020 (2002)
- EN 50281-1-1 (2000) + amendement A1

5 Un rapport d'examen a été réalisé :
« Dossier ATEX ZONE 22 B.doc »

6 L'application des normes suivantes a participé à
l'obtention de la certification :
EN 50081-1, EN 55022 classe B, EN 55014, EN 61000-6-2,
CEI 61000-4-2, CEI 61000-4-3, CEI 61000-4-4, CEI 61000-4-
5, CEI 61000-4-6, CEI 61000-4-8, CEI 61000-4-11.

7 L'organisme responsable du suivi de la directive
ATEX est **Bei Sensors**.

8 La société chargée de la certification **CEM** est
nommée ci-après :
GRME Cellule CEM, B.P.8, 68840 Pulversheim

9 Nous certifions que nos produits désignés ci-dessus
sont conformes à la directive et aux normes spécifiées.

1 Declaration of conformity EC

2 Us,
Bei Sensors
9 rue de Copenhague Schiltigheim
67013 Strasbourg
France
let us certify that this material: encoder for zone 22,
standard DHM5, DHO5, DHK5, GHT51 and KHO5(2G29)

3 With the following inscriptions:



II 3 D
IP65 T135°C

Conceived and manufactured has the directive
applicable following:
- ATEX directive 94/9/EC
- Directive CEM 89/336/CEE

4 Certification to summer obtained thanks to
the application of the standards:

- EN 13980 (2002)
- EN 60079-0 (2006)
- EN 60079-1 (2006)
- EN 61241-0 (2004)
- EN 61241-1 (2004)

Previous standards :

- EN 50014 (1997) + amendments 1 and 2
- EN 50020 (2002)
- EN 50281-1-1 (2000) + amendment A1

5 A report was done :
« Dossier ATEX ZONE 22 B.doc »

6 The application of the following standards took part
in obtaining certification:
EN 50081-1, EN 55022 classe B, EN 55014, EN 61000-6-2,
CEI 61000-4-2, CEI 61000-4-3, CEI 61000-4-4, CEI 61000-4-
5, CEI 61000-4-6, CEI 61000-4-8, CEI 61000-4-11.

7 The organization responsible for the follow-up of the
directive **ATEX** is **Bei Sensors**.

8 The company in charge of certification **CEM** is
named :
GRME Cellule CEM, B.P.8, 68840 Pulversheim

9 We certify that our indicated products so above are
in conformity with the directive and the specified
standards.

Date :

ATEX Certified Product Approved Person