

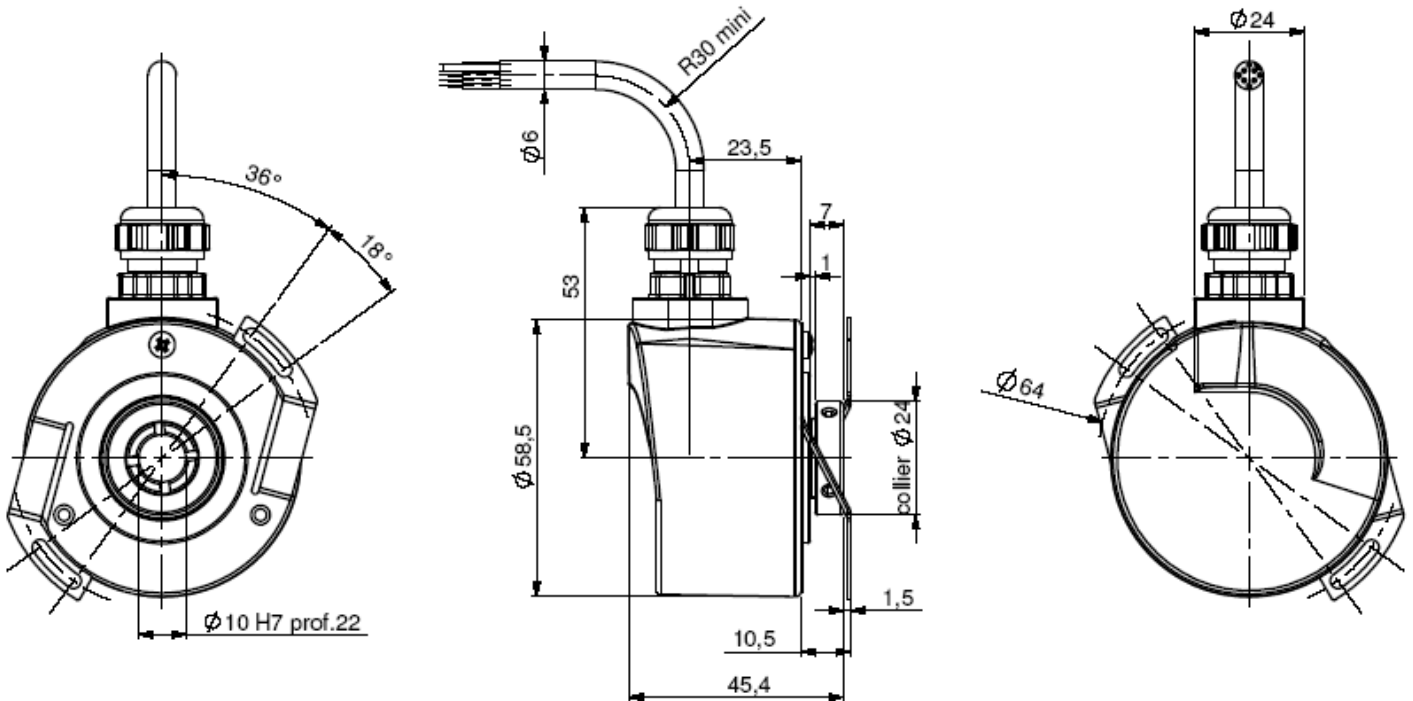
## FIXED RESOLUTION INCREMENTAL ENCODERS, DHK5 RANGE, 100°C

**DIGISINE**, universal encoders :

- Blind shaft version  $\varnothing 14\text{mm}$  (6, 8, 10 and 12 mm also available)
- Easy mounting for the hollow shafts thanks to DAC (Anti-Coupling Device)
- Robustness and excellent resistance to shocks / vibrations
- High protection level IP65
- High resolutions available : up to 80 000 cpt
- Universal electronic circuits from 5 to 30 Vdc
- High performances in temperature  $-30^{\circ}\text{C}$  to  $100^{\circ}\text{C}$  (option  $-40^{\circ}\text{C}$ )
- High performances in frequency of output signals : 300 kHz



**DHK5\_10 connection G3R (radial cable), DAC 9445/016\* mounted on the body**



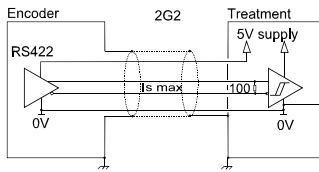
Minimum shaft depth : 12mm for optimal centring

\* Accessory to be ordered separately

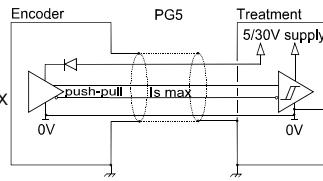
Material	Cover : zinc alloy	Vibrations (EN60068-2-6)	$\leq 100\text{ m.s}^{-2}$ (55 ... 2 000 Hz)
	Body : aluminium	EMC	EN 50081-1, EN 61000-6-2
	Shaft : stainless steel	Isolation	1 000 V eff
Bearings	6 803 serie	Encoder weight (approx.)	0,300 kg
Maximum loads	Axial : 20 N	Operating temperature	$-30 \dots + 100^{\circ}\text{C}$ (encoder T <sup>o</sup> )
	Radial : 50 N	Storage temperature	$-40 \dots + 100^{\circ}\text{C}$
Shaft inertia	$\leq 2,2 \cdot 10^{-6}\text{ kg.m}^2$	Protection(EN 60529)	IP 65
Torque	$\leq 6 \cdot 10^{-3}\text{ N.m}$	Torque (ring pressure screw)	nominal: 1.5 N.m, break: 2.0 N.m
Permissible max. speed	$9\,000\text{ min}^{-1}$	Theoretical mechanical lifetime $10^9$ turns ( $F_{\text{axial}} / F_{\text{radial}}$ )	
Continuous max. speed	$6\,000\text{ min}^{-1}$	10N / 25N	230
Shocks (EN60068-2-27)	$\leq 500\text{ m.s}^{-2}$ (during 6 ms)	20N / 50N	29

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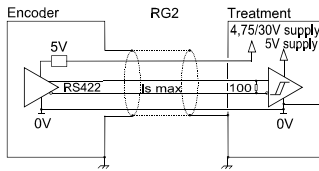
### DIGITAL OUTPUT SIGNALS (SQUARE WAVE SIGNALS)



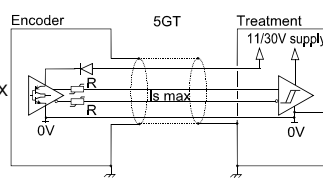
**Electronic 2G2 (100°C, 300kHz)**  
Supply : 5Vdc ± 10%  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>ol</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = 4Vdc



**Electronic PG5 (100°C, 300kHz)**  
Supply : 5 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>ol</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = V<sub>cc</sub>-2,5Vdc

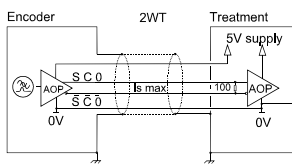


**Electronic RG2 (100°C, 300kHz)**  
Supply : 4,75 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>ol</sub> = 0,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = 4Vdc



**Electronic 5GT (70°C, 120kHz)**  
Supply : 11 to 30Vdc  
Cons. without load : 75mA max  
Current per channel : 40mA max  
0 max (I<sub>s</sub>=20mA) : V<sub>ol</sub> = 1,5Vdc  
1 min (I<sub>s</sub>=20mA) : V<sub>oh</sub> = V<sub>cc</sub>-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, 100mA per channel...

### STANDARD CONNECTIONS

		-	+	A or S	B or C	0 or Z	A/ or S/	B/ or C/	0/ or Z/	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, special flanges, connections...)

DHK5	Shaft Ø	Digital signals			Connection	Connection orientation
		Electronics : 2G2, PG5, RG2, 5GT	Output signals	resolution		
		Supply	Output stage			
14 : 14mm	reduction hubs available up to 6mm	2 : 5Vdc	G2 : driver 5Vdc RS422	9 : A,A/,B,B/,0,0/ (0 gated A & B)	80 000 max	G6 : M23 12 pins CW G5 : M23 12 pins CW G8 : M23 12 pins CCW G2 : DIN 5 pins GD : DIN 8 pins
		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			GP : PUR cable 12 wires G3 : PVC cable 8 wires	R : radial R020 : radial cable 2m
		2 : 5Vdc	WT : sinus 1Vpp	9 : S,S/,C,C/,Z,Z/		
Ex: DHK5 _ 14 //		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)

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