

## INCREMENTAL ENCODERS, DHK5 RANGE, 100°C

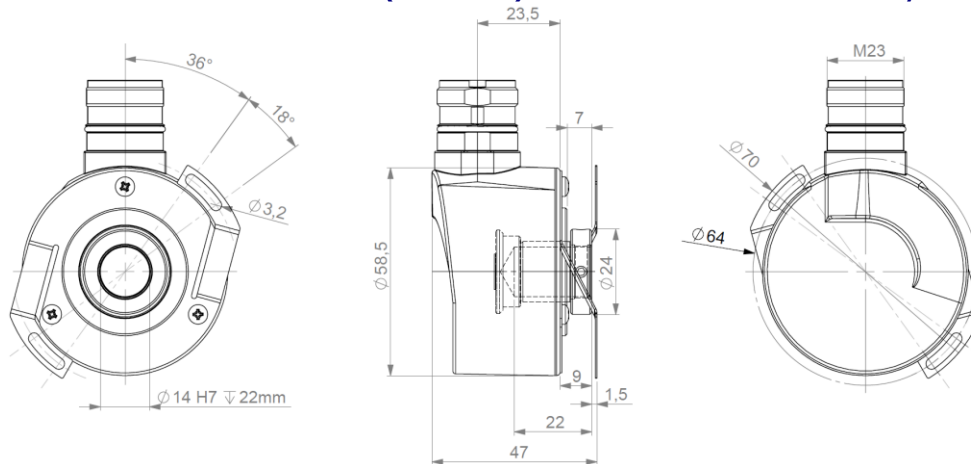
**DIGISINE™** universal encoder :

- Blind shaft version Ø14mm, with reduction hubs in aluminium of 6, 8, 10 and 12 mm
- 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 4.75 to 30 Vdc
- High performances in temperature -30°C to 100°C (option -40°C)
- High performances in frequency of output signals : 300 kHz

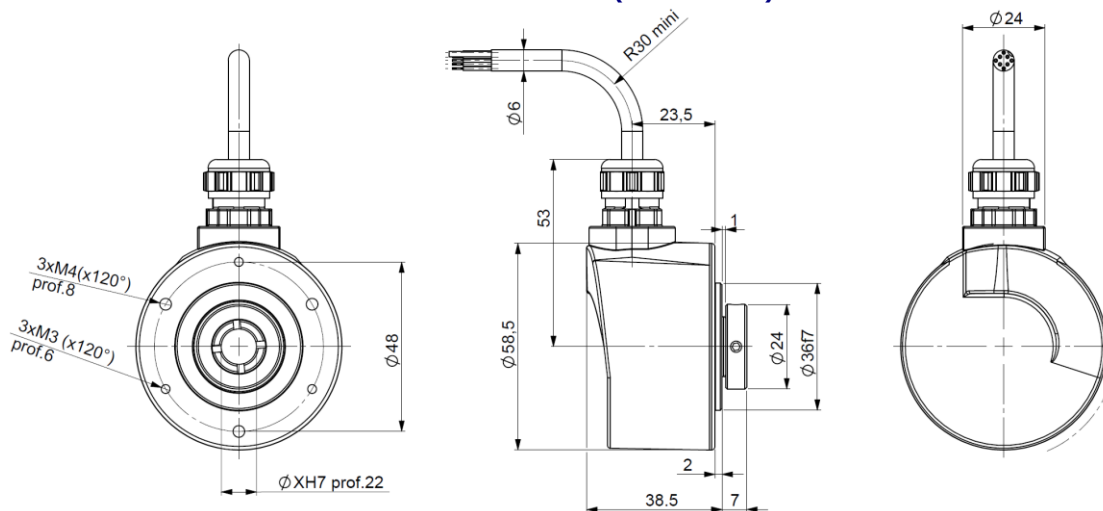


2004/108/CE

### DHK5\_14 connection G6R (radial M23), DAC 9445/016 mounted on body



### DHK5 connection G3R (radial cable)



## Mechanical Characteristics:

Material	Cover : zinc alloy	Vibrations (EN60068-2-6)	≤ 100 m.s <sup>-2</sup> (55 ... 2 000 Hz)
	Body : aluminum	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 ... + 100°C (encoder T <sup>°</sup> )
	Radial : 50 N	Storage temperature	- 40 ... + 100°C
Shaft inertia	≤ 2,2.10 <sup>-6</sup> kg.m <sup>2</sup>	Protection(EN 60529)	IP 65
Torque	≤ 6.10 <sup>-3</sup> N.m	Torque (ring pressure screw)	0,7...0,9 Nm
Permissible max. speed	9 000 min <sup>-1</sup>	Theoretical mechanical lifetime 10 <sup>9</sup> turns (F <sub>axial</sub> / F <sub>radial</sub> )	
Continuous max. speed	6 000 min <sup>-1</sup>	10N / 25N	230
Shocks (EN60068-2-27)	≤ 500 m.s <sup>-2</sup> (during 6 ms)	20N / 50N	29

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### Electrical Characteristics:

Version	Output signals	Resolution	Operating Voltage Vcl	Supply current (no loads)	Current per channel pair	Output Levels (Is=20mA)	Frequency capability	Short circuits proof	Reverse polarity tolerant	Temperature range
5GT	HTL	Up to 5000	11-30V --- 250mA	75mA	40mA	High min: Vcl - 2.5V Low max: 1.5V	Up to 120kHz	Yes	Yes	-30°C +70°C (1)
RG5		See available resolutions below	4.75-30V --- 250mA			High min: Vcl - 0.5V Low max: 0.5V				
RG2	TTL RS422					High min : 4.5V Low max: 0.5V		Up to 300kHz		Yes (except to Vcl)
2G2										
2WT	1Vpp	Up to 2500	5V+/-5% --- 250mA	8mA	1Vpp ± 20%	Yes				

(1) UL listed: -20°C +70°C. Device must be supplied by a Class 2, LPS or SELV limited energy source.

(2) UL listed: -20°C +80°C. Device must be supplied by a Class 2, LPS or SELV limited energy source.

### Connections:

		-	+	A or S	B or C	Z	A/ or S/	B/ or C/	Z/	Ground
GM	M12 - 8 pins	1	2	3	4	5	6	7	8	Connector Body
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
U3	PVC cable 8 wires	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding
GC	PUR cable 8 wires	BK black	RD red	GN green	BN brown	VT violet	YE yellow	OG orange	BU blue	General shielding
G3	PVC cable 8 wires (not UL)	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding
GP	PUR cable 12 wires (not UL)	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
TE	Silicone cable (3) 8 wires (not UL)	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding

(3) Advised cable for mobile application, in extreme temperature from -40°C to +100°C

### Available resolutions:

**Available resolutions digital signals:** 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

**Interpolated available resolutions digital signals (limited to 70°C):** 1080 1536 2880 3072 4320 4500 5120 5400 5760 6000 6144 7200 7500 8000 8192 9000 10000 10240 10800 12000 12500 12288 14400 15000 16000 16384 18000 20000 20480 21600 24000 24576 25000 28800 30000 32000 32768 36000 40000 40960 43200 48000 49152 50000 57600 60000 64000 65536 80000

**Available resolutions sine wave signals (2WT electronic) :** 250 256 360 500 512 1000 1024 1500 1800 2000 2048 2500

### Ordering Options:

Use this diagram, working from left to right to construct your model number (Example : **DHK5\_14//RG59//01024//G6R//\*\*DK\*\***)

DHK5	--	//	---	-	//	---	//	---	---	//	** -- **
TYPE:	SHAFT BORE:		VOLTAGE/ OUTPUT:	CHANNELS:		CYCLES/ TURN:		OUTPUT TERMINATION:	CABLE LENGTH:		FLANGE:
<b>DHK5</b> = Blind shaft encoder	<b>14</b> = 14mm  reduction hubs available up to 6mm		<b>5GT</b> = 11-30V voltage and push-pull output <b>RG5</b> = 4.75-30V voltage and push-pull output <b>2G2</b> = 5V voltage and RS422 output <b>RG2</b> = 4.75-30V voltage and RS422 output <b>2WT</b> = 5V voltage and 1Vpp output	<b>9</b> = AA/ BB/ ZZ/ B before A Z gated A&B  For 2WT electronic, <b>N</b> = SS/ CC/ ZZ/ C before S Z ungated		(Enter Cycles)  See available resolutions above		<b>G3R</b> = PVC cable <b>GCR</b> = PUR cable <b>GPR</b> = PUR cable (not UL) <b>TER</b> = Silicone cable (not UL)  <b>GMR</b> = M12 <b>G6R</b> = M23 12 pins CW <b>G8R</b> = M23 12 pins CCW	<b>xxx</b> = cable length ex. 020 = 2meters  <b>Blank</b> (no cable)		<b>**DK**</b> = 9445/016 anti-rotation

Made in France