

PROGRAMMABLE INCREMENTAL ENCODERS, DHM9 RANGE

The programmable **DIGISINE™** encoder, unique combination of performance and flexibility :

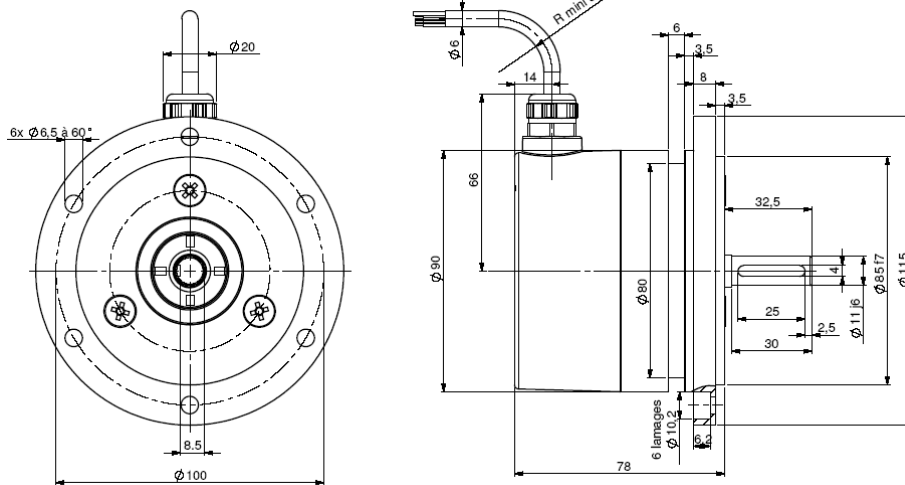
- Easy programming without any specific software or hard-ware
- Excellent resistance to shocks/vibrations and to extreme axial/radial loads
- High performances in temperature -30°C to 70°C (option -40°C)
- High protection level: IP65
- 11 or 12mm solid shaft
- Universal electronic circuits from 4.75 to 30 Vdc
- High performances in frequency of output signals : 300 kHz
- High resolutions: up to 80 000 cpt
- Connection with cable or connector output
- REO 115mm flange (Euroflange B10) for tacho-generator mounting



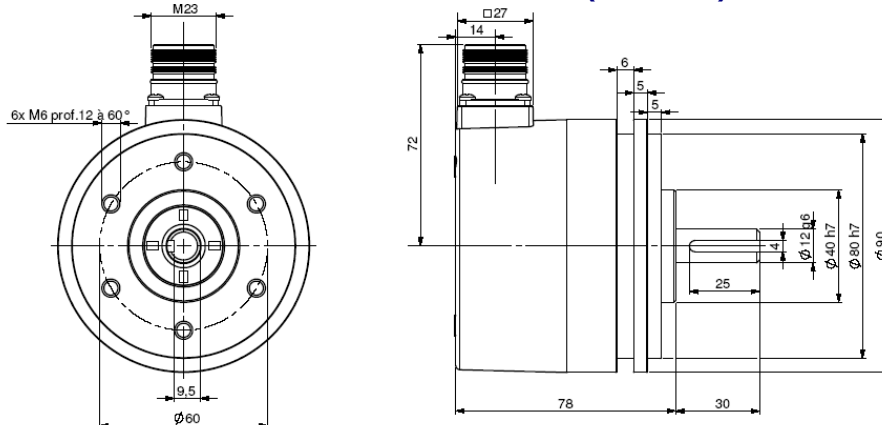
2004/108/CE



DHM9_11 connection U3R (radial cable) with flange 9500/007



DHM9_12 connection G6R (radial M23)



Mechanical Characteristics:

Material (Stainless steel option)	Cover : zinc alloy	Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6ms)
	Body : aluminum	Vibrations (EN60068-2-6)	$\leq 200 \text{ m.s}^{-2}$ (10 ... 1 000 Hz)
Shaft material	Stainless steel	EMC	EN 61000-6-4, EN 61000-6-2
Bearings	6001 serie	Isolation	1 000 V eff
Maximum loads	Axial : 100 N	Encoder weight (approx.)	1,100kg
	Radial : 200 N	Operating temperature	$-30 \dots +70^{\circ}\text{C}$ (encoder T°)
Shaft inertia	$\leq 15.10^{-6} \text{ kg.m}^2$	Storage temperature	$-40 \dots +80^{\circ}\text{C}$
Torque	$\leq 10.10^{-3} \text{ N.m}$	Protection(EN 60529)	IP 65
Permissible max. speed	$9\,000 \text{ min}^{-1}$	Theoretical mechanical lifetime 10^9 turns (F_{axial} / F_{radial})	
Continuous max. speed	$6\,000 \text{ min}^{-1}$	20 N / 30 N : 360	50 N / 100 N : 18 100 N / 200 N : 2,2
Shaft seal	Viton double lips		

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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
RP5	HTL	See available resolutions below	4.75-30V --- 250mA	75mA	40mA	High min: Vcl - 0.5V Low max: 0.5V	Up to 300kHz	Yes	Yes	-30°C +70°C (!)
RP2	TTL RS422					5V+/-5% --- 250mA		High min : 4.5V Low max: 0.5V		
2P2			Yes							

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

Connections:

		-	+	A	B	Z	A/	B/	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
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 (?) 8 wires (not UL)	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding

(2) Advised cable for mobile application, in extreme temperature from -40°C to +70°C

Available interpolated resolutions:

Easy multiplication of the basis resolution of the disk : 1, 2, 3, 4, 5, 8, 10, 12 and 16 times per dip-switch without specific software nor hardware.

Factor	Basis resolutions															Code switch				
	250	256	360	500	1000	1024	1500	1800	2000	2048	2500	3000	3600	4000	4096	5000	1	2	3	4
X 1	250	256	360	500	1000	1024	1500	1800	2000	2048	2500	3000	3600	4000	4096	5000	ON	ON	ON	ON
X 2	500	512	720	1000	2000	2048	3000	3600	4000	4096	5000	6000	7200	8000	8192	10000	ON	ON	ON	ON
X 3	750	768	1080	1500	3000	3072	4500	5400	6000	6144	7500	9000	10800	12000	12288	15000	ON	ON	ON	ON
X 4	1000	1024	1440	2000	4000	4096	6000	7200	8000	8192	10000	12000	14400	16000	16384	20000	ON	ON	ON	ON
X 5	1250	1280	1800	2500	5000	5120	7500	9000	10000	10240	12500	15000	18000	20000	20480	25000	ON	ON	ON	ON
X 8	2000	2048	2880	4000	8000	8192	12000	14400	16000	16384	20000	24000	28800	32000	32768	40000	ON	ON	ON	ON
X 10	2500	2560	3600	5000	10000	10240	15000	18000	20000	20480	25000	30000	36000	40000	40960	50000	ON	ON	ON	ON
X 12	3000	3072	4320	6000	12000	12288	18000	21600	24000	24576	30000	36000	43200	48000	49152	60000	ON	ON	ON	ON
X 16	4000	4096	5760	8000	16000	16384	24000	28800	32000	32768	40000	48000	57600	64000	65536	80000	ON	ON	ON	ON

Ordering Options:

Use this diagram, working from left to right to construct your model number (Example : DHM9_11//RP59//01024//G6R//**07**)

DHM9	--	//	---	-	//	---	//	---	---	//	**	**
TYPE:	SHAFT BORE:		VOLTAGE/ OUTPUT:	CHANNELS:		CYCLES/ TURN:		OUTPUT TERMINATION:	CABLE LENGTH:		FLANGE:	
DHM9 = Solid shaft encoder	11 = 11mm 12 = 12mm		RP5 = 4.75-30V voltage and push- pull output 2P2 = 5V voltage and RS422 output RP2 = 4.75-30V voltage and RS422 output	9 = AA/ BB/ ZZ/ B before A Z gated A&B		(Enter Cycles) See available resolutions above		GCR = PUR cable GPR = PUR cable (not UL) TER = Silicone cable (not UL)	xxx = cable length ex. 020 = 2meters		**07** = 9500/007 flange	
								GMR = M12 G6R = M23 12 pins CW G8R = M23 12 pins CCW	Blank (no cable)			

Made in France