

DHM5

FIXED RESOLUTION INCREMENTAL ENCODERS



Features

DIGISINE, Universal Encoders :

- 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 4.75 to 30 Vdc
- High Performance in Temperatures -30°C to 100°C (option -40°C)
- High Performances in Frequency of output signals : 300 kHz

SPECIFICATIONS

Material	Cover: Zinc Alloy Body: Aluminium Shaft: Stainless Steel
Bearings	6 803 Series
Maximum Loads	Axial: 50 N Radial: 100 N
Shaft Inertia	$\leq 1.10^{-6} \text{ kg.m}^2$
Torque	$\leq 4.10^{-3} \text{ N.m}$
Permissible Max. Speed	12 000 min^{-1}
Continuous Max. Speed	9 000 min^{-1}
Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
Vibrations (EN60068-2-6)	$\leq 100 \text{ m.s}^{-2}$ (55 ... 2 000 Hz)
EMC	EN 50081-1, EN 61000-6-2
Isolation	1 000 V eff
Encoder Weight (Approx.)	0,300 kg
Operating Temperature	$-30 \dots +100^{\circ}\text{C}$ (encoder T°)
Storage Temperature	$-40 \dots +100^{\circ}\text{C}$
Protection (EN 60529)	IP 65
Theoretical Mechanical Lifetime 10^9 Turns (F_{axial} / F_{radial})	25 N / 50 N : 99 50 N / 100 N : 12



ELECTRICAL CHARACTERISTICS

Ver.	Output Signals	Res.	Operating Voltage Vcl	Supply Current (no loads)	Current per Channel Pair	Output Levels (Is=20mA)	Frequency Capability	Short Circuits Proof	Reverse Polarity Tolerant	Reverse Polarity Tolerant
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° +70°C (1)
RG5	HTL	See Avail. Res. Below	4.75-30V 250mA	75mA	40mA	High Min: Vcl-0.5V Low Max: 0.5V	Up to 300kHz	Yes	Yes	-30° +100°C (2)
RG2	TTL RS422	See Avail. Res. Below	4.75-30V 250mA	75mA	40mA	High Min: 4.5V Low Max: 0.5V	Up to 300kHz	Yes (except to Vcl)	Yes	-30° +100°C (2)
2G2	TTL RS422	See Avail. Res. Below	5V ± 5% 250mA	75mA	40mA	High Min: 4.5V Low Max: 0.5V	Up to 300kHz	Yes	Yes	-30° +100°C (2)
2WT	1Vpp	Up to 2500	5V ± 5% 250mA	75mA	8mA	1Vpp ± 20%	Up to 300kHz	Yes	Yes	-30° +100°C (2)

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

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



STANDARD 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
GP	Silicone Cable ⁽³⁾ - 8 Wires (Not UL)	WH (White)	BN (Brown)	GY (Grey)	YE (Yellow)	GY (Grey)	PK (Pink)	BU (Blue)	RD (Red)	General Shielding

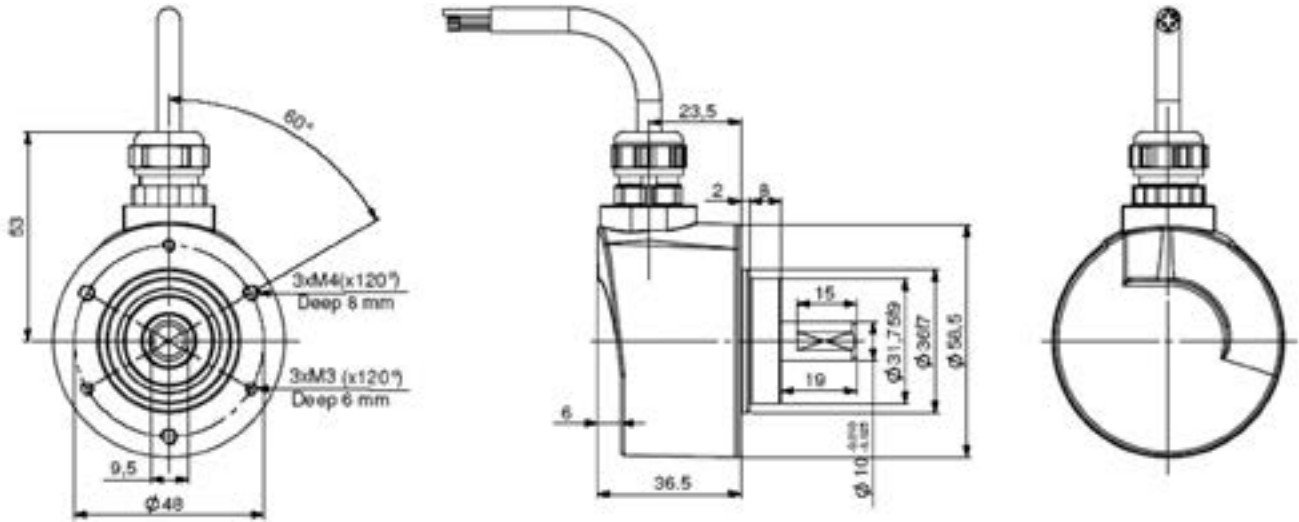
(3) Advised cable for mobile application, in extreme temperature from -40°C to +100°C



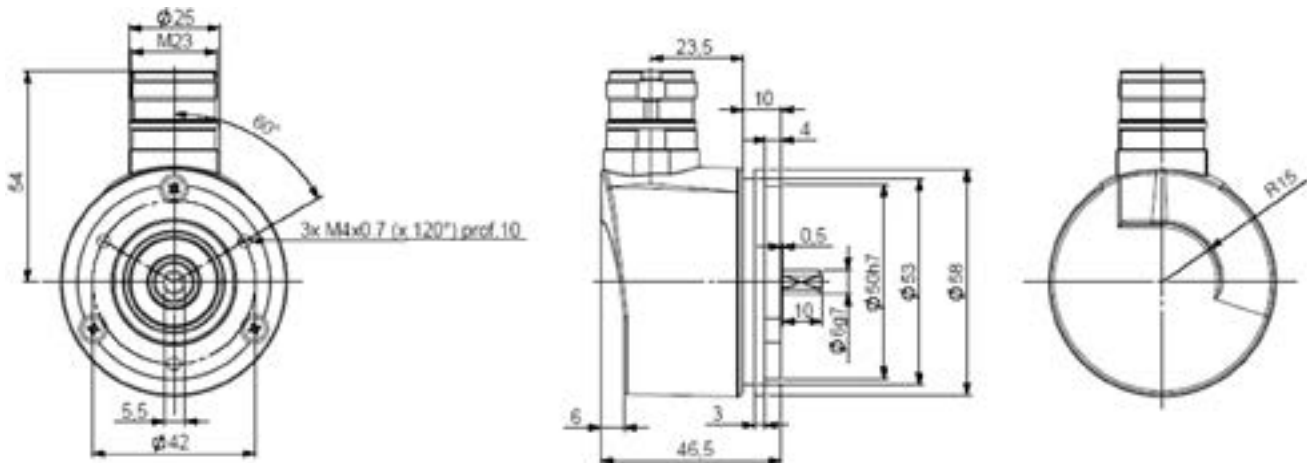
DIMENSIONS

All dimensions are in millimeters.

DHM5_10 Connection G3R (Radial Cable)



DHM5_06 Connection G6R (Radial M23), Flange 9500/003 Mounted on the Body



ORDERING OPTIONS

Example : DHM5_06 // RG5 // 01024 // G6R // **06**

Contact the factory for special versions, ex: electronics, special flanges, connections

Family	DHM5	06	//	RG5	9	//	01024	//	G6R	GP	//	**03**
DHM5: Solid Shaft Encoder												
Shaft Bore												
06: 6 mm												
09: 9.52 mm												
10: 10 mm												
08: 8mm (Option)												
Voltage Output												
5GT: 11-30V Voltage and Pushpull Output												
RG5: 4.75-30V Voltage and Pushpull Output												
2G2: 5V Voltage and RS422 Output												
RG2: 4.75-30V Voltage and RS422 Output												
2WT: 5V Voltage and 1Vpp Output												
Channels												
9: AA/ BB/ ZZ/ B before A Z gated A&B												
For 2WT electronic, N: SS/ CC/ ZZ/ C before S Z ungated												
Cycles / Turn												
(Enter Cycles) See Available Resolutions Above												
Output Termination												
G3R: PVC Cable												
GCR: PUR Cable												
GPR: PUR Cable (not UL)												
TER: Silicone Cable (not UL)												
GMR: M12												
G6R: M23 12 Pins CW												
G8R: M23 12 Pins CCW												
Cable Length												
xxx: Cable Length (ex.: 020 = 2 Meters)												
Blank: No Cable												
Flange												
03: Synchro Flange												

GENERAL NOTES

Available Resolutions: 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 2560 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

AGENCY APPROVALS & CERTIFICATIONS



Made in France

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