



## | DHM5

### PROGRAMMABLE INCREMENTAL ENCODERS



### Features

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

- Easy programming without any specific software or hard-ware
- 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  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  (option  $-40^{\circ}\text{C}$ )
- High performances in frequency of output signals : 300 kHz

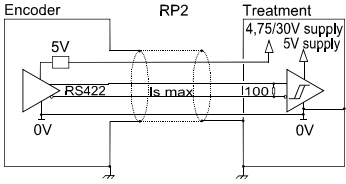
### SPECIFICATIONS

<b>Material</b>	<b>Cover:</b> Zinc alloy <b>Body:</b> Aluminium <b>Shaft:</b> Stainless steel
<b>Bearings</b>	6,000 series
<b>Maximum Loads</b>	<b>Axial:</b> 50 N <b>Radial:</b> 100 N
<b>Shaft Inertia</b>	$\leq 1.10^{-6}$ kg.m <sup>2</sup>
<b>Torque</b>	$4.10^{-3}$ N.m
<b>Permissible Max. Speed</b>	12 000 min <sup>-1</sup>
<b>Continuous Max. Speed</b>	9, 000 min <sup>-1</sup>
<b>Shocks (EN60068-2-27)</b>	$\leq 500$ m.s <sup>-2</sup> (during 6 ms)
<b>Vibrations (EN60068-2-6)</b>	$\leq 100$ m.s <sup>-2</sup> (55 ... 2 000 Hz)
<b>EMC</b>	EN 50081-1, EN 61000-6-2
<b>Isolation</b>	1 000 V eff
<b>Encoder Weight (Approx.)</b>	0,300 kg
<b>Operating Temperature</b>	- 30 ... + 100°C (encoder T°)
<b>Storage Temperature</b>	- 40 ... + 800°C
<b>Protection (EN 60529)</b>	IP 65 (IP67 with flange option)

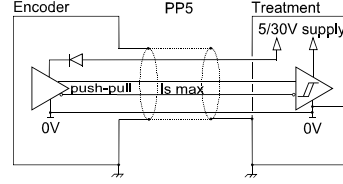
<b>Theoretical Mechanical Lifetime 109 Turns (<math>F_{axial} / F_{radial}</math>)</b>	
<b>25 N / 50 N</b>	99
<b>50 N / 100 N</b>	12



## DIGITAL OUTPUT SIGNALS (SQUARE WAVE SIGNALS)



**RP2 Electronic (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



**PP5 Electronic (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

Protection against short circuits and against reverse polarity for all the electronics.



## 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

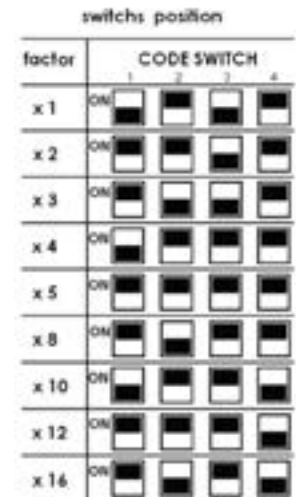


## AVAILABLE INTERPOLATED RESOLUTIONS

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.



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

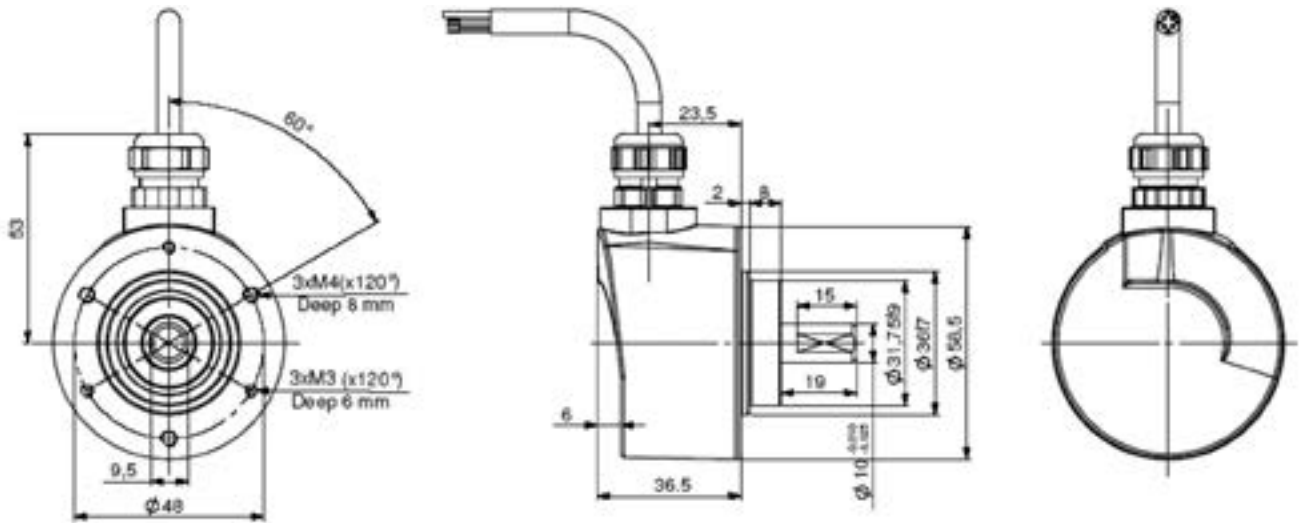




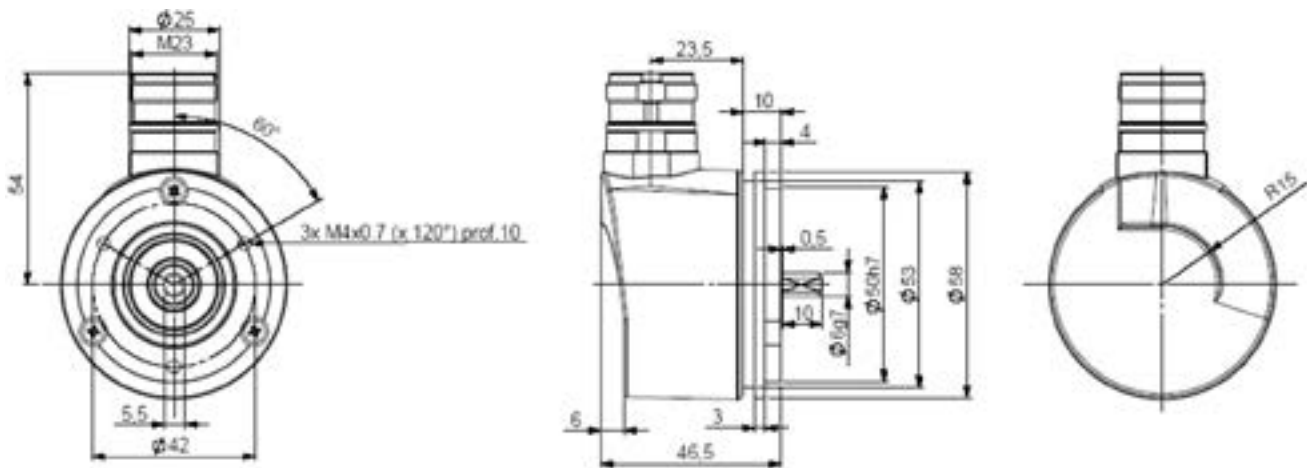
## DIMENSIONS

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 // R P2 9 // 5000 // GP R020

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

<b>Family</b>	DHM5	06	//	R	P2	9	//	5000	//	GP	R020
<b>DHM5</b>											
<b>Ø Axe</b>											
<b>06:</b> 6mm <b>10:</b> 10mm <b>08:</b> 8mm (option)											
<b>Supply</b>											
<b>Digital Signals (Square Wave)</b> <b>R:</b> 4.75 to 30Vdc <b>P:</b> 5 to 30Vdc											
<b>Output Stage</b>											
<b>Digital Signals</b> <b>P2:</b> driver 5Vdc RS422 <b>P5:</b> push-pull											
<b>Output Signals</b>											
<b>Digital Signals</b> <b>9:</b> A,A/,B,B/,0,0/ (0 gated A & B)											
<b>Resolution</b>											
<b>Digital Signals</b> 5,000 (max) Basic resolution											
<b>Connection</b>											
<b>G6:</b> M23 12 pins CW <b>G5:</b> M23 12 pins CW <b>G8:</b> M23 12 pins CCW <b>G1:</b> Solenoid valve 4 pins <b>G2:</b> DIN 5 pins <b>GD:</b> DIN 8 pins <b>GP:</b> PUR cable 12 wires <b>G3:</b> PVC cable 8 wires											
<b>Connection Orientation</b>											
<b>R:</b> Radial Ex: R020: radial cable 2m											



## AGENCY APPROVALS & CERTIFICATIONS



Made in France

Page 4

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