

## DXM5S

### OPTICAL INCREMENTAL ENCODERS



#### Features

- Adapted to food and beverage – pharmaceutical - river – offshore applications
- Stainless steel encoder (316) with hygienic design
- Flanges and shaft adapted to the market needs
- Robustness and excellent resistance to shocks / vibrations
- Double ball bearings with safety lock system
- Solid shaft version Ø10mm
- High protection level IP69K
- Universal power supply 5 to 30Vdc
- Industrial standard electronic RS422/TTL and HTL
- High performances in temperature –30°C to +100°C
- Optical technology, contactless
- Resolutions available : up to 80 000 ppr
- Adapted axial cable gland output



#### SPECIFICATIONS

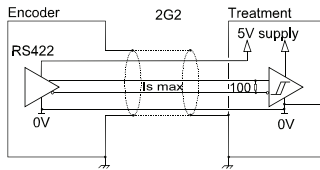
<b>Material</b>	<b>Shaft:</b> Stainless steel 316 <b>Cover:</b> Stainless steel 316 <b>Body:</b> Stainless steel 316
<b>Bearings</b>	Double ball bearings
<b>Maximum Loads</b>	Axial: 250 N Radial: 500 N
<b>Shaft Inertia</b>	$\leq 1,2 \cdot 10^{-6} \text{ kg.m}^2$
<b>Torque</b>	$\leq 90 \cdot 10^{-3} \text{ N.m}$
<b>Permissible Max. Speed</b>	4,000 min <sup>-1</sup>
<b>Continuous max. speed</b>	3,000 min <sup>-1</sup>
<b>Shocks (EN60068-2-27)</b>	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
<b>Vibrations (EN60068-2-6)</b>	$\leq 100 \text{ m.s}^{-2}$ (55 ... 2,000 Hz)
<b>EMC</b>	EN 50081-1, EN 61000-6-2
<b>Isolation</b>	1,000 Veff
<b>Encoder weight (approx.)</b>	0,600 kg
<b>Operating temperature</b>	- 30 ... + 100 °C (encoder T°)
<b>Storage temperature</b>	- 40 ... + 100 °C
<b>Protection(EN 60529)</b>	IP 69K

Theoretical mechanical lifetime  $10^9$  turns ( $F_{axial} / F_{radial}$ )

50 N / 100 N	12
250 N / 500 N	0,5

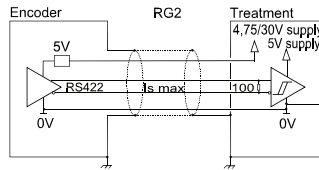
**DIGITAL OUTPUT SIGNALS (SQUARE WAVE SIGNALS)**

Electronic 2G2 (100°C, 300kHz)



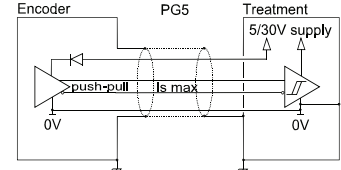
<b>Supply</b>	5Vdc ± 10%
<b>Cons. without load</b>	75mA max
<b>Current per channel</b>	40mA max
<b>0 max (Is=20mA)</b>	$V_{ol} = 0,5Vdc$
<b>1 min (Is=20mA)</b>	$V_{oh} = 4Vdc$

Electronic RG2 (100°C, 300kHz)



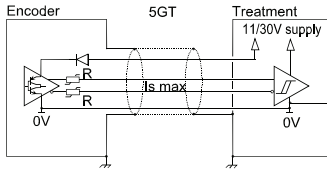
<b>Supply</b>	4,75 to 30Vdc
<b>Cons. without load</b>	75mA max
<b>Current per channel</b>	40mA max
<b>0 max (Is=20mA)</b>	$V_{ol} = 0,5Vdc$
<b>1 min (Is=20mA)</b>	$V_{oh} = 4Vdc$

Electronic PG5 (100°C, 300kHz)



<b>Supply</b>	5 to 30Vdc
<b>Cons. without load</b>	75mA max
<b>Current per channel</b>	40mA max
<b>0 max (Is=20mA)</b>	$V_{ol} = 0,5Vdc$
<b>1 min (Is=20mA)</b>	$V_{oh} = V_{cc} - 2,5Vdc$

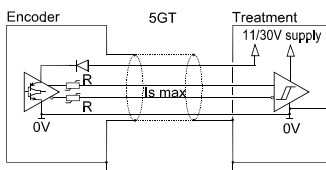
Electronic 5GT (70°C, 120kHz)



<b>Supply</b>	11 to 30Vdc
<b>Cons. without load</b>	75mA max
<b>Current per channel</b>	40mA max
<b>0 max (Is=20mA)</b>	$V_{ol} = 1,5Vdc$
<b>1 min (Is=20mA)</b>	$V_{oh} = V_{cc} - 2,5Vdc$

**SINE WAVE OUTPUT SIGNALS**

Electronic 5GT (70°C, 120kHz)



<b>Supply</b>	11 to 30Vdc
<b>Cons. without load</b>	75mA max
<b>Current per channel</b>	40mA max
<b>0 max (Is=20mA)</b>	$V_{ol} = 1,5Vdc$
<b>1 min (Is=20mA)</b>	$V_{oh} = V_{cc} - 2,5Vdc$

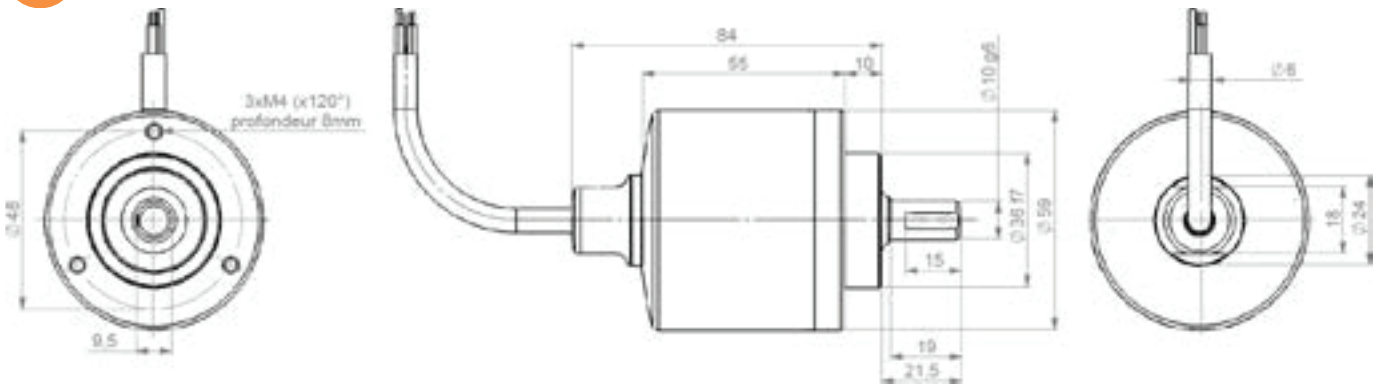
## ELECTRONIC PROTECTIONS

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, 5 to 36Vdc, 100mA per channel...

## STANDARD CONNECTIONS

Type	Cable	0V	+V	A or S	B or C	Z	A/ or S/	B/ or C/	Z/	Ground
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

## DIMENSIONS



## ORDERING OPTIONS

Example : DXM5S10/AA/RG59//010024//TEA050

<b>Family</b>	DXM5S	10/AA	/	RG5	9	//	010024	//	TEA	050
<b>DXM5S:</b> Solid shaft encoder										
<b>Shaft Bore/ Mechanics</b>										
<b>10/AA:</b> 10mm shaft 316 stainless steel encoder with IP69K										
<b>Voltage/ Output</b>										
<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>Channels</b>										
<b>9:</b> AA/ BB/ ZZ/ B before A Z gated A&B For 2WTelectronic,										
<b>N:</b> SS/ CC/ ZZ/ C before S Z ungated										
<b>Cycles/ Turns</b>										
<b>(Enter Cycles)</b> See available resolutions above										
<b>Output Termination</b>										
<b>TEA:</b> Silicone cable										
<b>Cable Length</b>										
<b>XXX:</b> cable length ex. 020 = 2meters										



## 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 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



## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions will result in death or serious injury.**

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