

# HHM3

## Magnetic incremental encoder



This type of encoder provides information about the instantaneous position of a rotating shaft. The encoder does this by producing one square wave cycle per increment of shaft movement. Incremental output is ideal for applications where relative movement is desired.

With its 30mm size and a 6mm solid shaft, HHM3 encoder characterizes itself by its strong robustness of the mechanical and electro-magnetic parts, it's the most compact really industrial encoder with a solid shaft.

- Application fields : agriculture, construction, forestry vehicles, medical applications, solar panels...
- Magnetic technology, contactless.
- Available resolution up to 1024 pulses per revolution.
- Universal supply 5 to 30Vdc available.
- Available in option : Extended temperature range (up to - 40...+125°C), IP67/IP69K...

ELECTRICAL SPECIFICATIONS		Bearings	696 series
Electrical stroke	360°	Maximal loads	Axial: 20 N Radial: 50 N
Power supply	5 VDC or 5-30 VDC, depending on the output	Shaft inertia	$\leq 0,1 \cdot 10^{-6}$ kgm <sup>2</sup>
Resolution	1024 pulses/rev.	Torque	$\leq 1 \cdot 10^{-3}$ Nm
Isolation	500 Veff	Nominal max. speed	6000 rpm
EMC	EN 61000-6-4 EN 61000-6-2	Encoder weight (approx.)	150 g
		Operating temperature	-40...+100°C (at 5 VDC)
		Storage temperature	-40...+100°C
		Protection	IP 65
MECHANICAL SPECIFICATIONS		Shocks (EN 60068-2-27)	$\leq 2000$ m/s <sup>2</sup> (during 6 ms)
Material	Shaft: stainless steel Cover: aluminium Body: aluminium	Vibration (EN 60068-2-6)	$\leq 200$ m/s <sup>2</sup> (55...2000 Hz)
		<b>Theoretical mechanical lifetime 10<sup>9</sup> turns (F<sub>axial</sub> / F<sub>radial</sub>)</b>	
		20 N / 50 N	15
<b>Contact Regal Components for special versions, ex: stainless steel versions, connections...</b>			

ORDER INFORMATION						
	Shaft diameter	Supply Output stage	Signals	Resolution	Connection	Connection orientation
HHM3	06: 6 mm	<b>2G2:</b> 5VDC TTL / RS422 output  <b>PG5:</b> 5 to 30 VDC Push-pull output (TTL / RS422 available if encoder supply is 5 VDC)	<b>9:</b> A, A/ B, B/ 0, 0/	<b>1024</b> max	<b>GM:</b> M12 8 pinouts  <b>G3:</b> PVC cable 8 wires	<b>A:</b> axial  <b>D020:</b> diagonal cable 2 m
<b>Ex: HHM3</b>	<b>06</b>	<b>PG5</b>	<b>9</b>	<b>01024</b>	<b>G3</b>	<b>D020</b>
<b>Available resolutions: 32, 64, 128, 256, 1024</b>						

2015-03-17, specifications subject to change without notice

ISO 9001  
BUREAU VERITAS  
Certification



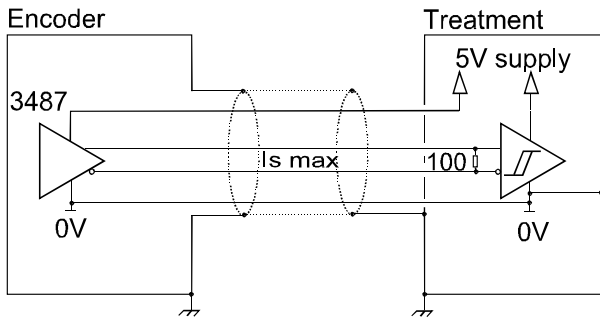
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## Magnetic incremental encoder

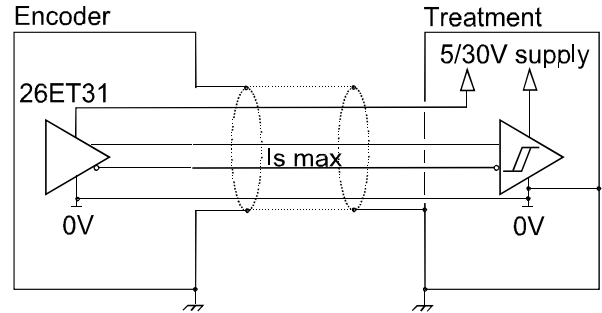
### Output electronic type 2G2



#### 2G2 electronic (100kHz)

Supply : 5Vdc ±10%  
 Cons. without load : 40mA max  
 Current per channel : 40mA max  
 0 max (Is=20mA) : Vol = 0,5Vdc  
 1 min (Is=20mA) : Voh = 2,5Vdc

### Output electronic type PG5



#### PG5 electronic (100kHz)

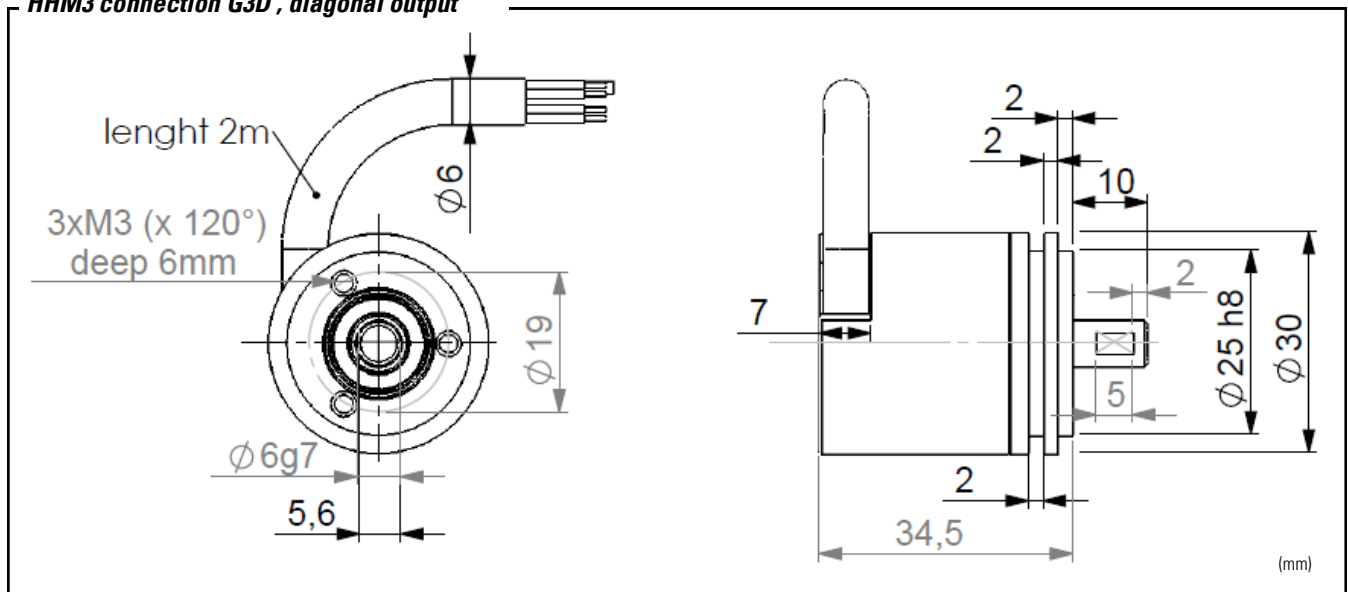
Supply : 5 to 30Vdc  
 Cons. without load : 40mA max  
 Current per channel : 40mA max  
 0 max (Is=20mA) : Vol = 0,5Vdc  
 1 min (Is=20mA) : Voh = Vcc-3Vdc

Protection against short circuits and in-  
 version of polarity.

### STANDARD CONNECTION

		-	+	A	B	0	A/	B/	0/	Ground
G3	PVC cable, 8 wires	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	Main shield
GM	M12 connector 8 pinouts	1	2	3	4	5	6	7	8	Connector body

### HHM3 connection G3D, diagonal output



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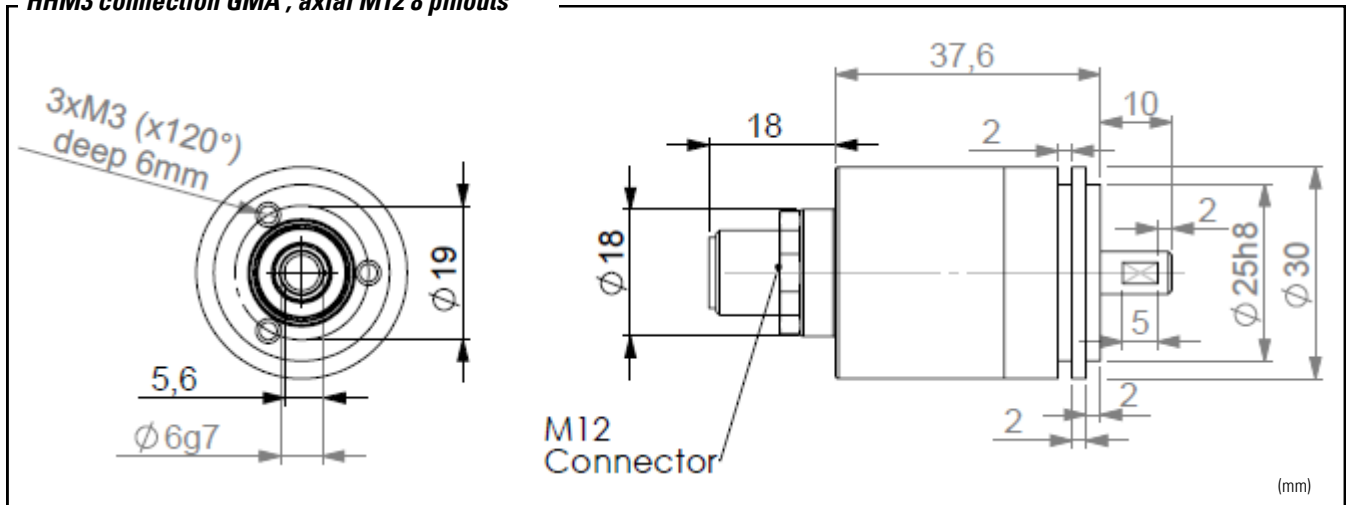
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HHM3 connection GMA, axial M12 8 pinouts



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