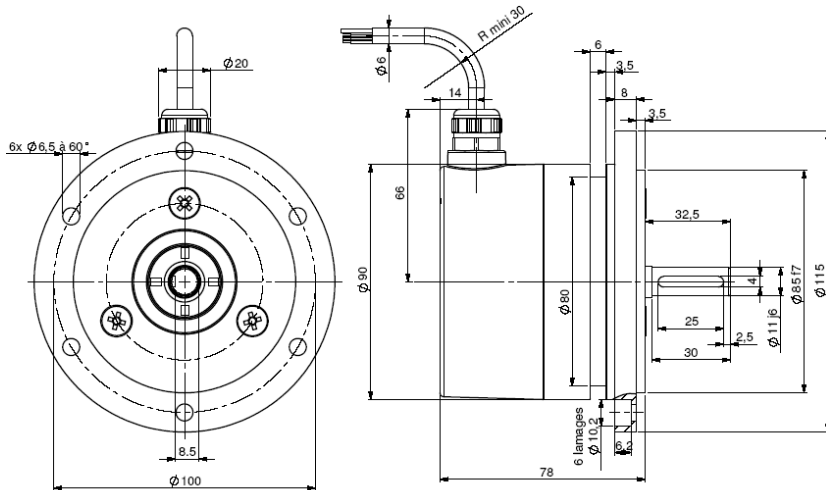


TACHO-ENCODER, NHM9 RANGE

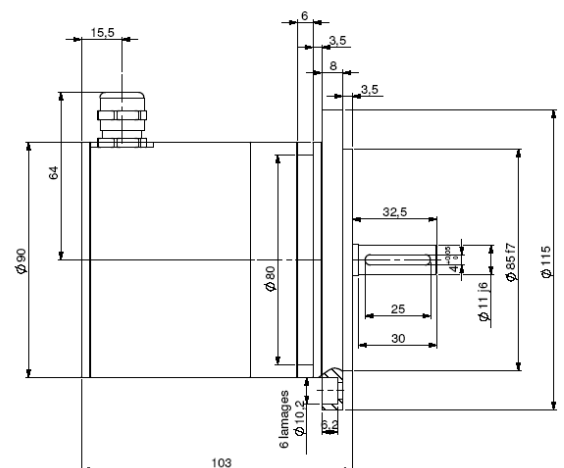
- Especially designed for heavy-duty (steel, paper, wood – mills, cranes ...). Compact and robust conception. Excellent resistance to shocks/vibrations and to extreme axial/radial loads
- Connection with terminal box with LED option, cable or connector output
- Digital incremental signals and analogue output signals (proportional to the speed)
- Mechanical overspeed switch option
- 12mm solid shaft or 11mm with REO 115mm flange (Euroflange B10) for tachogenerator mounting



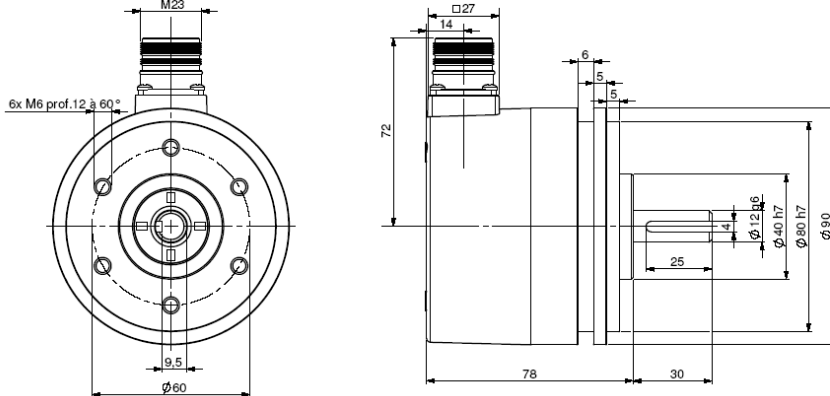
NHM9_11 connection N3R (radial cable)



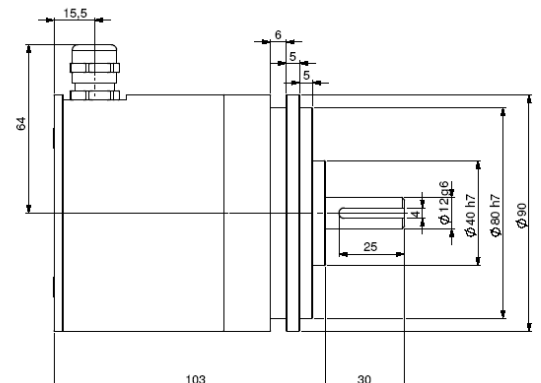
NHM9_11 connection NBR (terminal box)



NHM9_12 connection N6R (radial M23)



NHM9_12 connection NBR (terminal box)

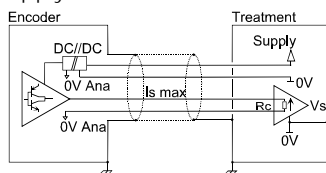


Material (connector or cable output version) Stainless steel option	Cover : zinc alloy	Vibrations (EN60068-2-6)	≤ 200 m.s ⁻² (10 ... 1 000 Hz)	
	Body: aluminium		EMC	EN 50081-1, EN 61000-6-2
Material (terminal box version) Stainless steel option	Cover: aluminium	Tension d'isolement		1 000 Veff
	Body: aluminium		Encoder weight (approx.) Connector or cable version	1,100kg zinc alloy cover, alu body
Axe	Stainless steel	2,400kg zinc alloy cover, stainless steel body		
Bearings	6001	2,600kg stainless steel cover and body		
Maximal loads	Axial : 100 N	Encoder weight (approx.) Terminal box version	1,300kg alu cover, alu body	
	Radial : 200 N		2,600kg alu cover, stainless steel body	
Shaft inertia	≤ 15.10 ⁻⁶ kg.m ²	2,800kg stainless steel cover and body		
Torque	≤ 10.10 ⁻³ N.m	Operating temperature		
Permissible max. speed	9 000 min ⁻¹	- 20 ... + 80 °C (encoder T°)		
Continuous max. speed	6 000 min ⁻¹	Storage temperature		
Shaft seal	Viton double lips	- 40 ... + 80 °C		
Shocks (EN60068-2-27)	≤ 500 m.s ⁻² (during 6ms)	Protection(EN 60529)		
		IP 67 (cable), IP 66 (connector)		
Theoretical mechanical lifetime 10 ⁹ turns (F _{axial} / F _{radial})				
		20 N / 30 N : 360	50 N / 100 N : 18	100 N / 200 N : 2,2

TACHO-ENCODER, NHM9 RANGE

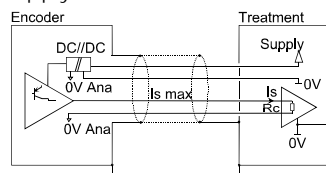
ANALOGUE OUTPUT CIRCUITS / POWER SUPPLY

- 2Na : power supply 5 Vdc – driver 0...10 Vdc
- 3Nc : power supply 15-30 Vdc – driver 0...10 Vdc
- 2Nj : power supply 5 Vdc – driver - 10 Vdc ... + 10 Vdc
- 3Ni : power supply 15-30 Vdc – driver - 10 Vdc ... + 10 Vdc



Rc min	1 kOhms
Rc advised	1,5 kOhms
Rc max	/

- 2Nd : power supply 5 Vdc – driver 0...20 mA
- 2Ng : power supply 5 Vdc – driver 4...20 mA
- 2Nm : power supply 5 Vdc – driver -20 mA ... + 20 mA
- 3Nf : power supply 15-30 Vdc – driver 0...20 mA
- 3Ni : power supply 15-30 Vdc – driver 4...20 mA
- 3No : power supply 15-30 Vdc – driver -20 mA ... + 20 mA



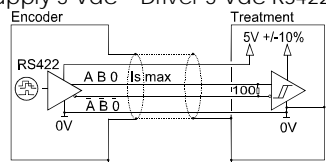
Rc min	25 Ohms
Rc advised	150 Ohms
Rc max	500 Ohms

Nota : Current loop output also available

Both versions, voltage and current output are protected against inversion of polarity and excess voltage up to 33Vdc

DIGITAL OUTPUT CIRCUIT / SUPPLY

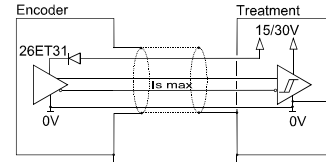
Electronic type 2Na, 2Nd, 2Ng, 2Nj and 2Nm :
Power supply 5 Vdc – Driver 5 Vdc RS422 (100kHz)



Supply : 5Vdc ± 10%
Current per channel : 40mA max
0 max (Is=20mA) : V_{ol} = 0,5Vdc
1 min (Is=20mA) : V_{oh} = 2,5Vdc

Nota : regulated 12Vdc output also available

Electronic type 3Nc, 3Nf, 3Ni, NI and No :
Power supply 15 to 30 Vdc – Driver Push Pull 15 to 30 Vdc (100kHz)



Supply 15 to 30 Vdc
Current per channel : 40mA max
0 max (Is=20mA) : V_{ol} = 0,5Vdc
1 min (Is=20mA) : V_{oh} = V_{cc}-3Vdc

The products are equipped with a total galvanic isolation (1kV) between the analogue output circuits and the rest of the electronic Consumption without load: 250mA, protection against short circuits for the electronic type 3Nc, 3NF, 3Ni, NI and No

STANDARD CONNECTIONS

		-	+	A	B	0	A/	B/	0/	0V ana	OUT ana	Ground
NB	Terminal box	1	2	3	4	5	6	7	8	9	10	Cable gland
N6	M23 – 12pins CW	1	2	3	4	5	6	7	8	9	10	Connector body
N3	PUR cable	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	WH-GN white-green	BN-GN brown-green	General shield

ORDERING REFERENCE (Contact the factory for special versions ex: overspeed switch, electronics, special flanges, connections ...)

	Shaft Ø	Available electronic	Channel	Resolution	Speed	Connection	Orientation	
NHM9	11 : 11mm	2Na,2Nd,2Ng,3Nc,3Nf and 3Ni	9 : A,A/,B,B/,0,0/ (0, A&B gated)	10 000 max	example : D10 : 10rpm C20 : 200rpm M30 : 3000rpm	N6 : M23 12 pinouts CW NB : terminal box	R : radial A : axial	
NBM9 stainless steel body	12 : 12mm	Supply						Output stage
NXM9 stainless steel body and cover	C1 : 11mm Length 20mm C2 : 12mm Length 25mm	2: 5Vdc 3: 15 to 30Vdc	Na:0..10Vdc+RS422 Nc:0..10Vdc+push-pull Nd:0..20mA+RS422 Nf:0..20mA+push-pull Ng:4..20mA+RS422 Ni:4..20mA+push-pull	A : A,A/,B,B/,0,0/ (0, A gated)	N : A,A/,B,B/,0,0/ (0 ungated)	N3 : PUR cable 12 wires	example: R020:radial cable 2m A020:axial cable 2m	
Ex: NHM9	11 //	3	Nc	9 //	5000	M30 //	NB	R

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