

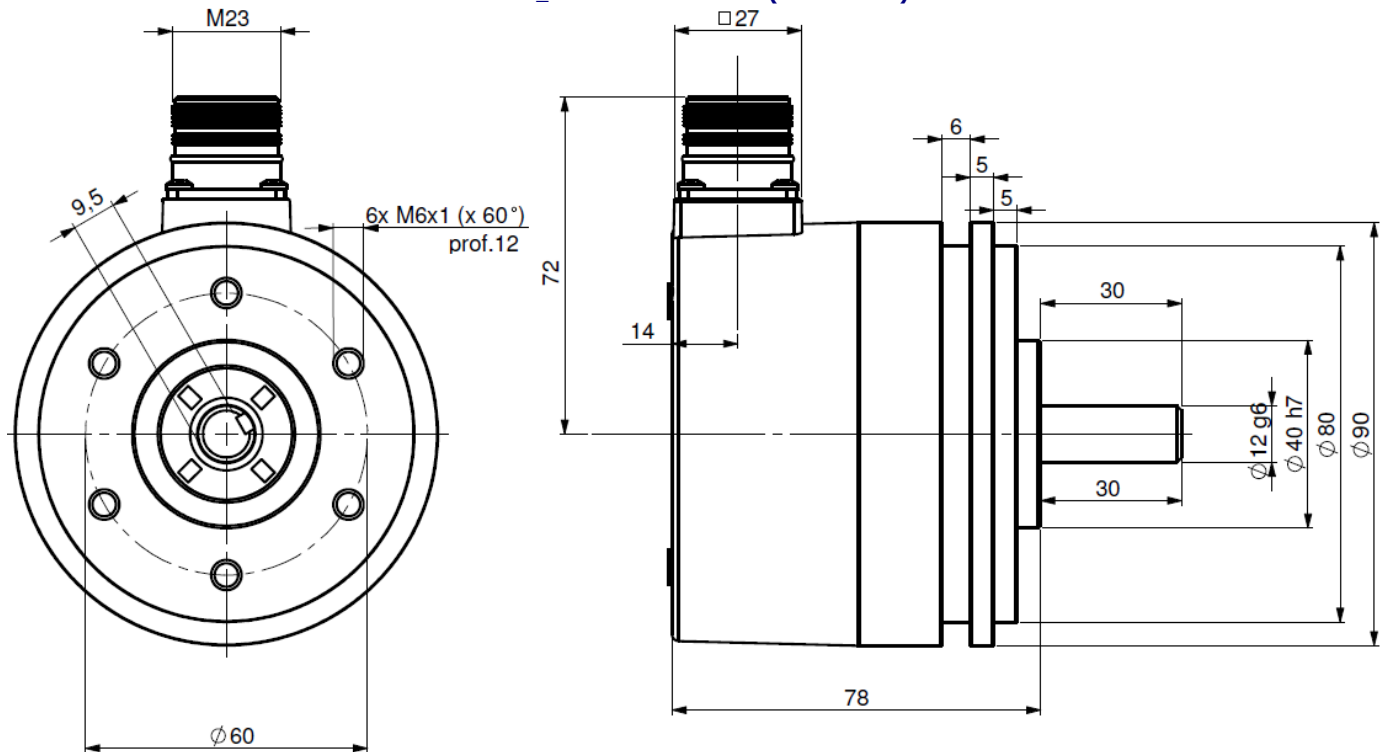
SSI ABSOLUTE SINGLE TURN ENCODERS, CHM9 RANGE

CHM9, 90mm SSI absolute single turn encoders :

- 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.
- Solid shaft 11mm and 12mm.
- High protection level IP65 – IP67 option.
- High performances in temperature –20°C to 90°C.
- Universal power supply from 5 to 30 Vdc – SSI output.
- High resolutions possibility, up to 16 bits (Gray or binary).
- Standard DIRECTION and RESET input.
- Digital or sine incremental outputs option.



CHM9_12 connection S6R (radial M23)



MECHANICAL CHARACTERISTICS

Material	Cover : zinc alloy
Stainless steel option	Body : aluminium
Shaft material	Stainless steel
Bearings	6001 serie
Maximum loads	Axial : 100 N
	Radial : 200 N
Shaft inertia	$\leq 15 \cdot 10^{-6}$ kg.m ²
Torque	$\leq 10 \cdot 10^{-3}$ N.m
Permissible max. speed	9 000 min ⁻¹
Continuous max. speed	6 000 min ⁻¹
Shaft seal	Viton double lips
Shocks (EN60068-2-27)	≤ 500 m.s ⁻² (during 6ms)

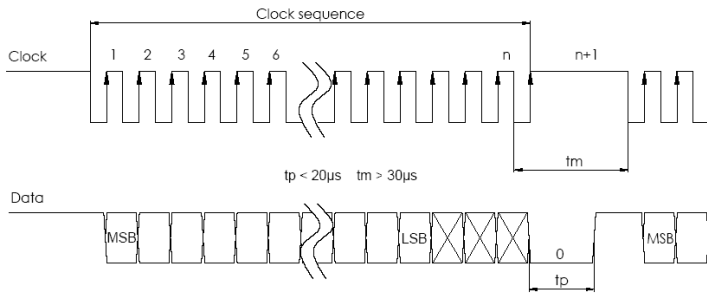
Vibrations (EN60068-2-6)	≤ 200 m.s ⁻² (10 ... 1 000 Hz)	
EMC	EN 61000-6-4, EN 61000-6-2	
Isolation	1000 Veff	
Encoder weight (approx)	1,100kg zinc alloy cover, alu body	
	2,400kg zinc alloy cover, stainless steel body	
	2,600kg stainless steel cover and body	
Operating temperature	- 20 ... + 90 °C (encoder T°)	
Storage temperature	- 40 ... + 100 °C	
Protection(EN 60529)	IP 65 – IP67 option	
Theoretical mechanical lifetime 10 ⁹ turns (F _{axial} / F _{radial})		
20 N / 30 N	50 N / 100 N	100 N / 200 N
360	18	2,2

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ELECTRICAL CHARACTERISTIC

Input signal clock CLK	per optocoupler	Clock frequency CLK	• 100kHz to 1MHz for 13 bits encoder
Output signal DATA	line - driver RS422		• 100kHz - $F_{max} = 10^6 / (\text{resolution in bits} - 10)$ for encoder > 13bits, ex : $F_{max} = 166\text{kHz}$ for 16 bits encoder
Power supply	5 - 30Vdc	Interrogation frame	n=13 bits for 13 bits resolution
Introduction	< 200ms		n=21bits for >13bits resolution
Consumption without load	Max. 100mA		

SSI TRANSMISSION



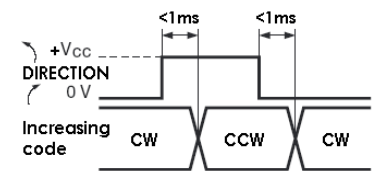
Transmission	Transmission up to 400m at 100kHz in function of the cable characteristics
Cable	High security of transmission by using shielded cable and twisted pairs

* Consult us for length > 100m

CONNECTION

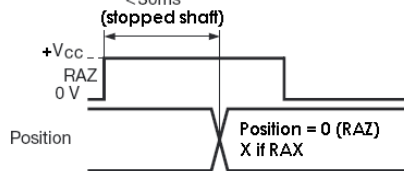
Type	+ Vcc	0 V	Clk+	Data+	RAZ	Data-	Clk-	DIRECTION
S6	1	2	3	4	5	6	7	9
S5	BN/GN Brown/Green	WH/GN White/Green	GN Green	GY Grey	BU Blue	PK Pink	BN Brown	WH White
S8	8	1	3	2	6	10	11	5

DIRECTION input



Level "0"	min 0 V	max $0,3x(+V_{cc})$	Increasing CW
Level "1"	$0,7x(+V_{cc})$	$+V_{cc}$	CCW
I direction	$< 5\text{mA}$		

RAZ / RAX input



Level "0"	min 0 V	max $0,3x(+V_{cc})$
Level "1"	$0,7x(+V_{cc})$	$+V_{cc}$
I raz/rax	$< 5\text{mA}$	

Nota : Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used)

ORDERING CODE (Special versions upon request, for ex. special flanges/electronics/connections...)

	∅ shaft	Supply	Output stage	Code	Resolution	Connection	Connection orientation	
CHM9 Cover : zinc Body : alu	11: 11mm 12: 12mm 12: 12mm 25mm length	P : 5 to 30Vdc	CS : SSI without parity	B : binary G : Gray	Power of 2 13: 13 bits standard option: 14: 14 bits to 16: 16 bits	S6 : M23 12 pins CW for SSI	A: axial R : radial	
CBM9 Cover : zinc Body : st. steel			CP : SSI even parity			S8 : M23 12 pins CCW for SSI		
CXM9 Stainless steel cover & body			CI : SSI odd parity			S5: cable	Ex: A020 Axial 2 meters R020 Radial 2 meters	
CHM9	-	12 //	P	CS	G //	13 //	S6	R

Monitoring function available as option :

- of the code coherence.
- of the LED internal regulated current loop.
- of temperature range with 2 limits.

Consult us

Entry / output available as option:

- RAX input (reset to a value X, manufacture setting).
- ERROR output for monitoring functions.
- Sine & Cosine outputs without index, 2048ppr.
- A & B incremental outputs without index, 2048ppr.

Made in FRANCE