

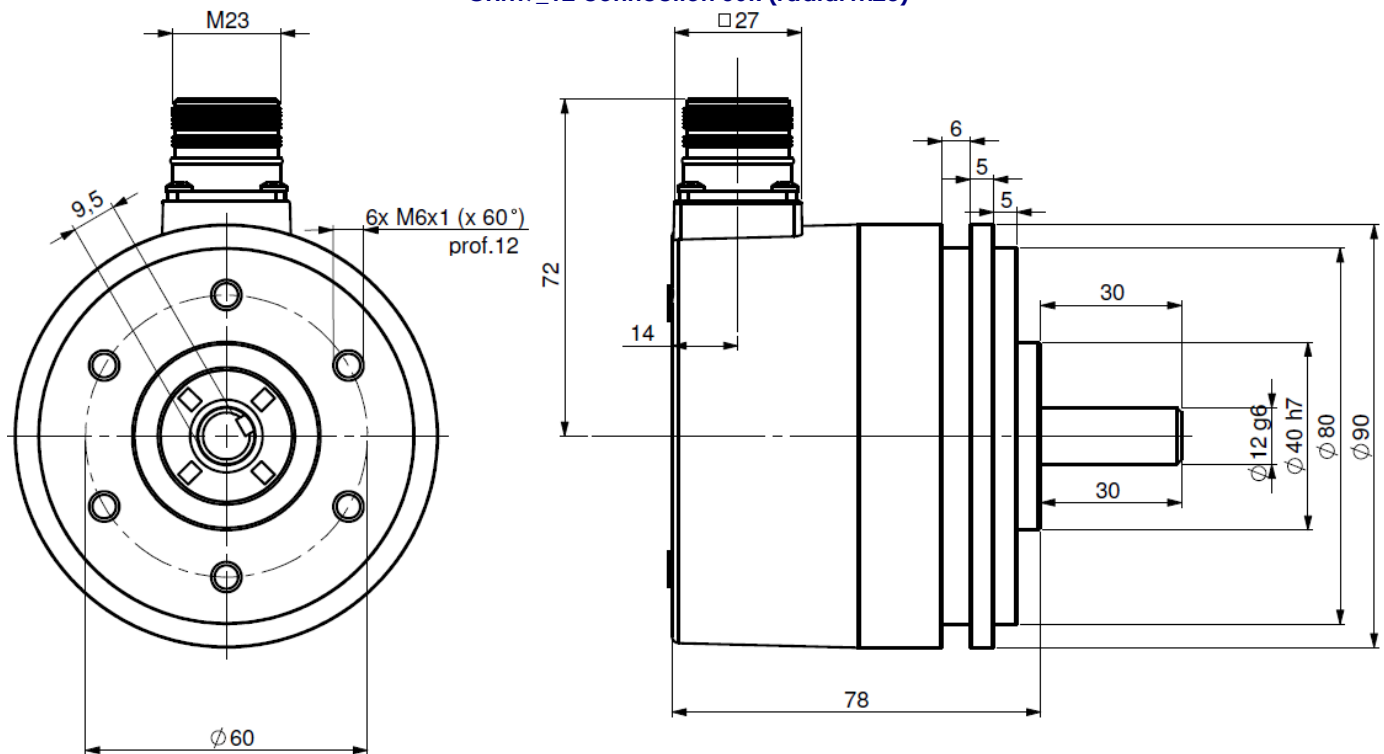
## SSI ABSOLUTE SINGLE TURN ENCODERS, CHM9 RANGE

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

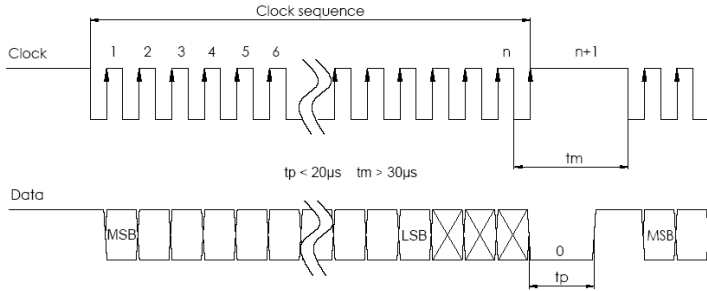
Material	Cover : zinc alloy	Vibrations (EN60068-2-6)	≤ 200 m.s <sup>-2</sup> (10 ... 1 000 Hz)	
Stainless steel option	Body : aluminium	EMC	EN 61000-6-4, EN 61000-6-2	
Shaft material	Stainless steel	Isolation	1000 Veff	
Bearings	6001 serie	Encoder weight (approx)	1,100kg zinc alloy cover, alu body	
Maximum loads	Axial : 100 N		2,400kg zinc alloy cover, stainless steel body	
	Radial : 200 N		2,600kg stainless steel cover and body	
Shaft inertia	≤ 15.10 <sup>-6</sup> kg.m <sup>2</sup>	Operating temperature	- 20 ... + 90 °C (encoder T°)	
Torque	≤ 10.10 <sup>-3</sup> N.m	Storage temperature	- 40 ... + 100 °C	
Permissible max. speed	9 000 min <sup>-1</sup>	Protection(EN 60529)	IP 65 – IP67 option	
Continuous max. speed	6 000 min <sup>-1</sup>	Theoretical mechanical lifetime 10 <sup>9</sup> turns (F <sub>axial</sub> / F <sub>radial</sub> )		
Shaft seal	Viton double lips	20 N / 30 N	50 N / 100 N	100 N / 200 N
Shocks (EN60068-2-27)	≤ 500 m.s <sup>-2</sup> (during 6ms)	360	18	2,2

## SSI ABSOLUTE SINGLE TURN ENCODERS, CHM9 RANGE

### 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



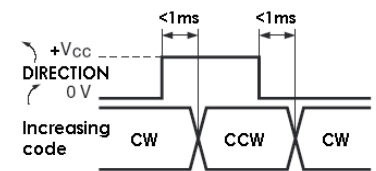
Transmission	Transmission up to 400m at 100kHz in function of the cable characteristics
Cable	High security of transmission by using shielded cable and twisted pairs

\* Consult us for length > 100m

### CONNECTION

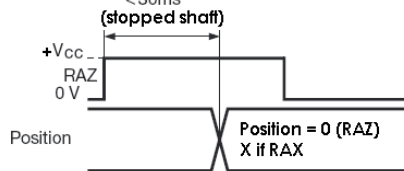
Type	+ Vcc	0 V	Clk+	Data+	RAZ	Data-	Clk-	DIRECTION
S6	1	2	3	4	5	6	7	9
S5	BN/GN Brown/Green	WH/GN White/Green	GN Green	GY Grey	BU Blue	PK Pink	BN Brown	WH White
S8	8	1	3	2	6	10	11	5

#### 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	< 5mA		

#### RAZ / RAX input



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

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	
<b>CHM9</b> Cover : zinc Body : alu	11: 11mm 12: 12mm	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	
<b>CBM9</b> Cover : zinc Body : st. steel			CP : SSI even parity			S8: M23 12 pins CCW for SSI		
<b>CXM9</b> Stainless steel cover & body			12: 12mm 25mm length			CI : SSI odd parity	S5: cable	Ex: A020 Axial 2 meters R020 Radial 2 meters
<b>CHM9</b>	-	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.

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