



CHM9

SSI ABSOLUTE SINGLE TURN ENCODERS



Features

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.

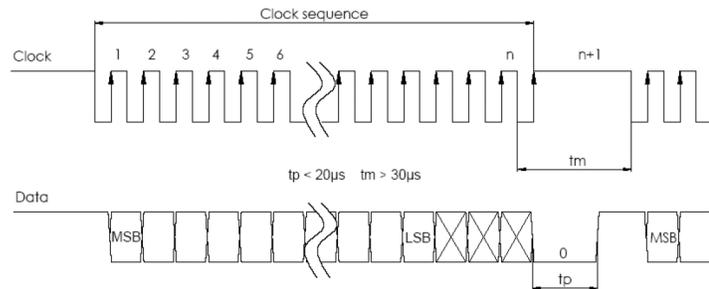
SPECIFICATIONS

Material	Cover: Zinc Alloy Body: Aluminum Shaft: Stainless Steel
Bearings	6001 series
Maximal Loads	Axial: 100 N Radial: 200 N
Shaft Inertia	$\leq 15 \cdot 10^{-6} \text{ kg.m}^2$
Torque	$\leq 10 \cdot 10^{-3} \text{ N.m}$
Permissible Max. Speed	9,000 min ⁻¹
Continuous Max. Speed	6,000 min ⁻¹
Shaft Seal	Viton double lips
Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
Vibrations (EN60068-2-6)	$\leq 200 \text{ m.s}^{-2}$ (10 ... 1,000 Hz)
EMC	EN 61000-6-4, EN 61000-6-2
Isolation	1,000 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 - IP 67 option
Theoretical mechanical lifetime 10⁹ turns (F_{axial} / F_{radial})	
20 N / 30 N	360
50 N / 100 N	18
100 N / 200 N	2,2

Electrical Characteristics

Input Signal CLK	Per Optocoupler
Output Signal Data	Line - Driver RS422
Power Supply	5 - 30Vdc
Introduction	< 200ms
Consumption Without Load	Max. 100mA
Clock Frequency (CLK)	100kHz to 1MHz for 13 bits encoder $100\text{kHz} - F_{\text{max}} = 10^6 / (\text{resolution in bits} - 10)$ for encoder >13bits, ex : $F_{\text{max}} = 166\text{kHz}$ for 16 bits encoder
Interrogation Frame	n=13 bits for 13 bits resolution n=21bits for >13bits resolution

SSI Transmission



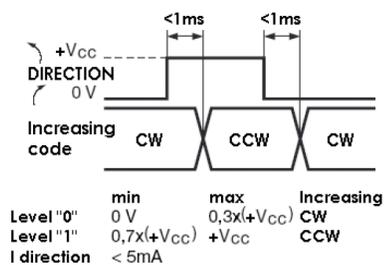
Transmission	Transmission up to 400m at 100kHz in function of the cable characteristics
Cable	High security of transmission by using shielded cable and twisted pairs

* Consult us for length > 100m

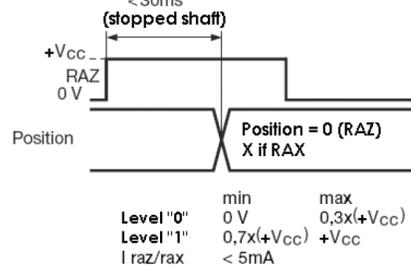
Connection

Type	+ Vcc	0V	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



RAZ / RAX input

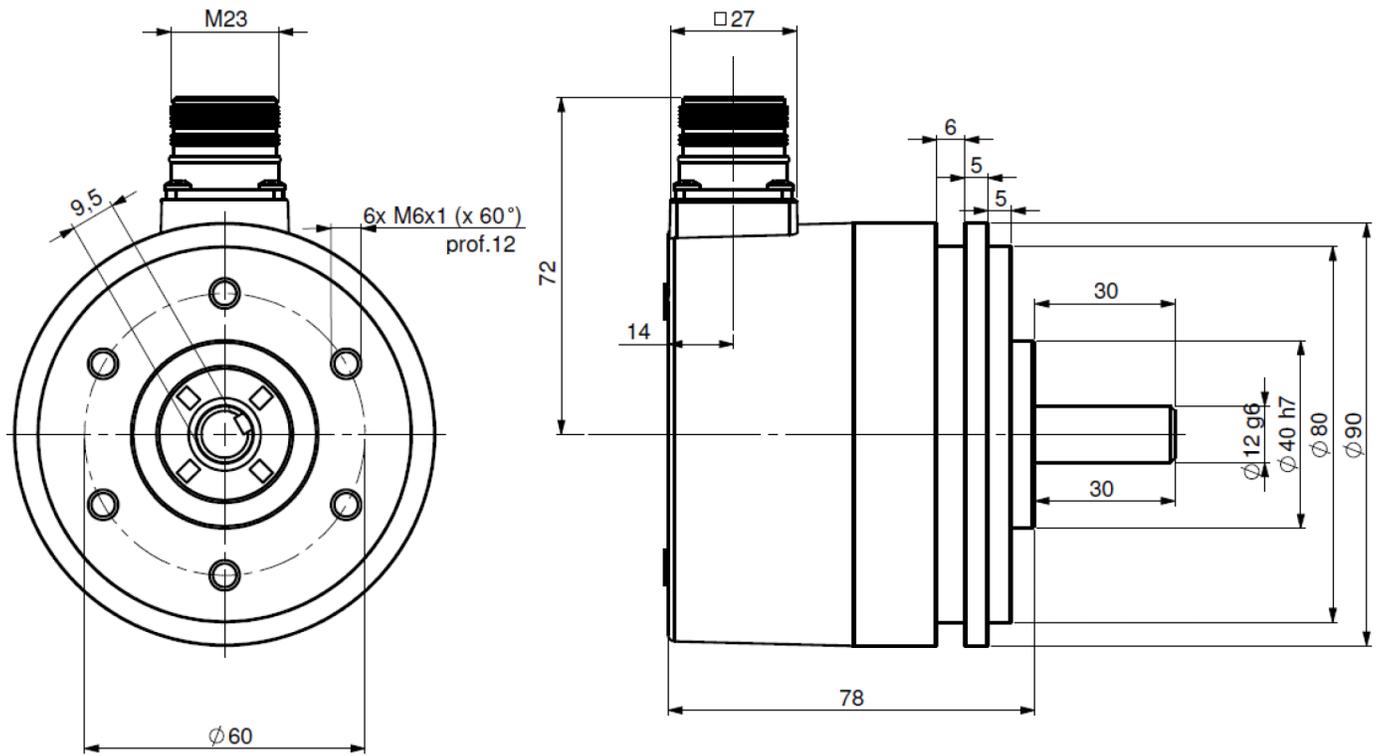


Note: Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used).



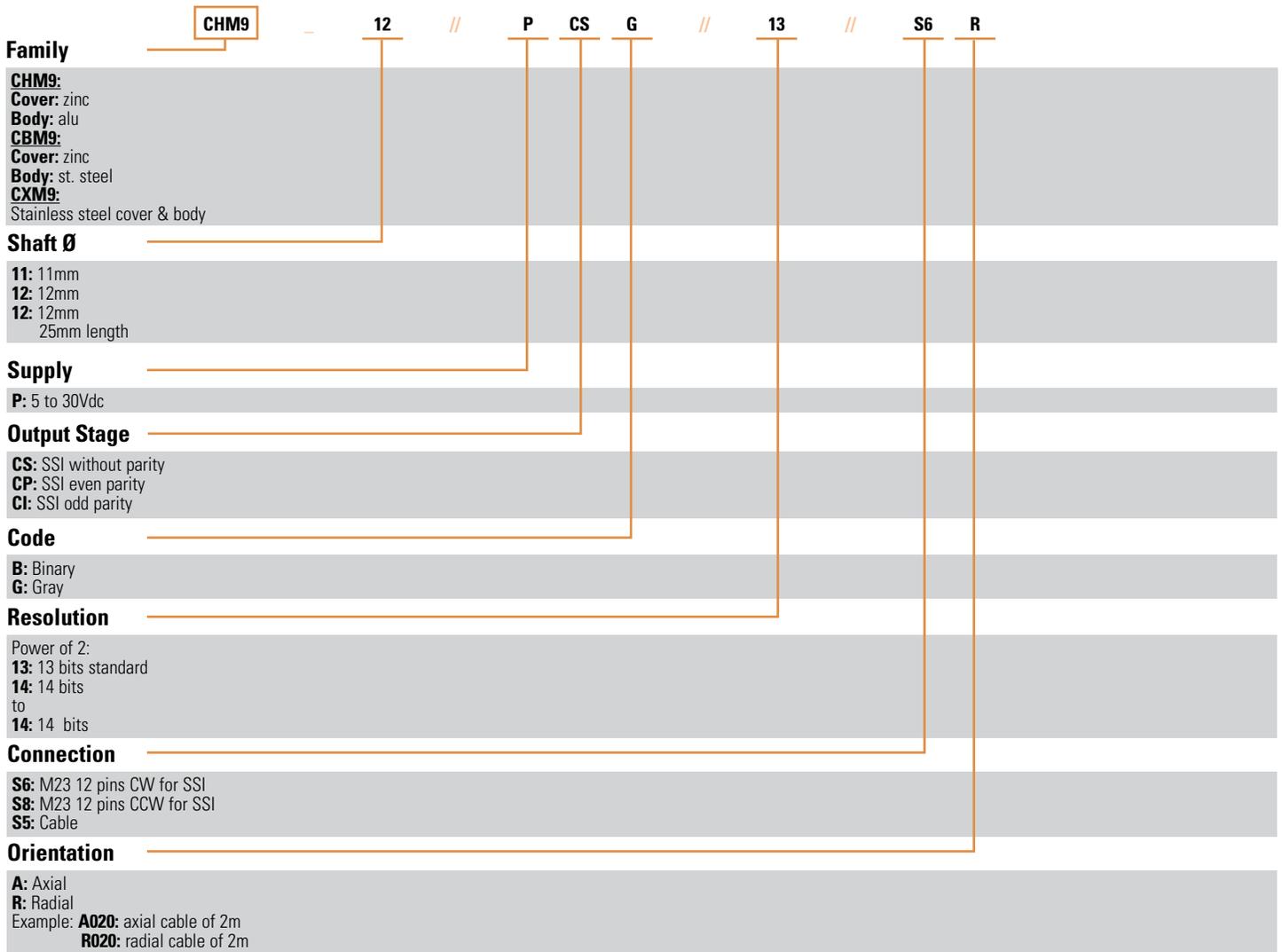
DIMENSIONS

Dimensions in mm





Contact the factory for special versions, ex: special flanges, electronics, connections...



Monitoring function available in option:

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

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

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