

# SSI ABSOLUTE SINGLE TURN ENCODERS, CHO5 RANGE

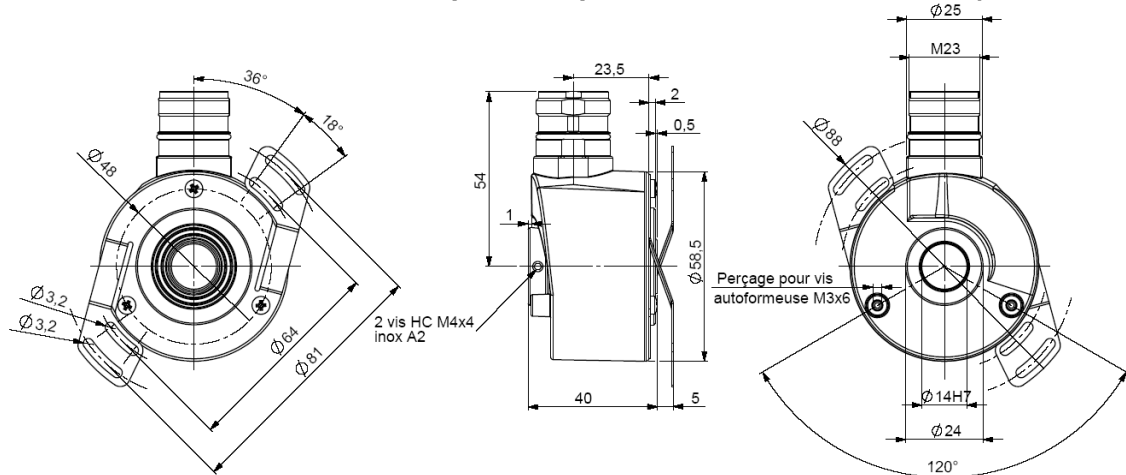
# CHO5

CHO5, the new generation of SSI absolute single turn encoders:

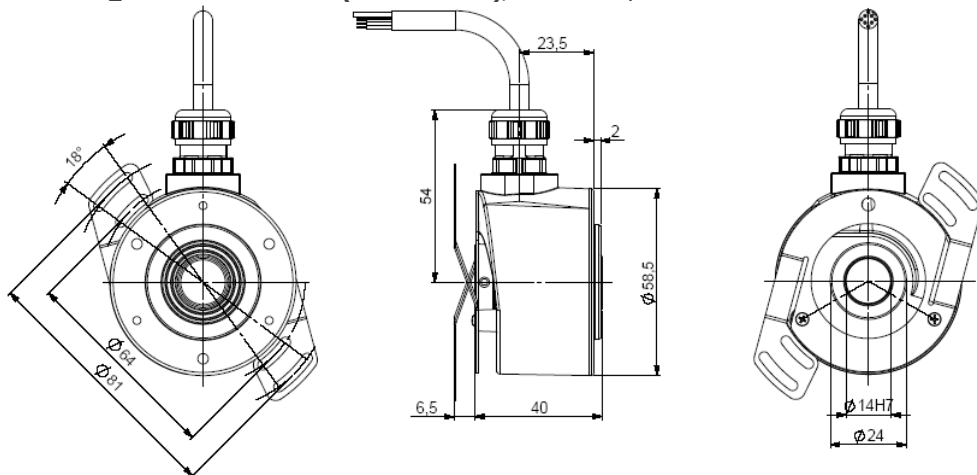
- Through hollow shaft version  $\varnothing 14\text{mm}$ , with reduction hubs in aluminium of 6, 8, 10 and 12 mm
- Robustness and excellent resistance to shocks / vibrations
- High protection level IP65
- High resolutions possibility, up to 16 bits (Gray or binary)
- Universal power supply from 5 to 30 Vdc
- High performances in temperature  $-20^{\circ}\text{C}$  to  $90^{\circ}\text{C}$  (option  $-40^{\circ}\text{C}$  to  $100^{\circ}\text{C}$ )
- Standard DIRECTION and RESET input
- Numeric or sine incremental outputs option



**CHO5\_14 connection S6R (radial M23), DAC 9445/015\* mounted on body**



**CHO5\_14 connection S5R (radial cable), DAC 9445/015\* mounted on the cover**



\* Accessory to be ordered separately

Material	Cover : zinc alloy
	Body: aluminium
	Shaft : stainless steel
Bearings	6 803 série
Maximum loads	Axial : 20 N
	Radial : 50 N
Shaft inertia	$\leq 2,2 \cdot 10^{-6} \text{ kg.m}^2$
Torque	$\leq 6 \cdot 10^{-3} \text{ N.m}$
Permissible max. speed	$9\,000 \text{ min}^{-1}$
Continuous max. speed	$6\,000 \text{ min}^{-1}$
Shaft seal	Viton

Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
Vibrations (EN60068-2-6)	$\leq 100 \text{ m.s}^{-2}$ (10 ... 2 000 Hz)
EMC	EN 61000-6-4, EN 61000-6-2
Isolation	1 000 V eff
Encoder weight (approx.)	0,270 kg
Operating temperature	$-20 \dots +90^{\circ}\text{C}$ (Encoder T <sup>°</sup> )
Storage temperature	$-40 \dots +100^{\circ}\text{C}$
Protection(EN 60529)	IP 65
Torque (ring pressure screw)	nominal: 1.5 N.m, break: 2.0 N.m
Theoretical mechanical lifetime $10^9$ turns ( $F_{axial} / F_{radial}$ )	
10N / 25N : 230	20N / 50N : 29

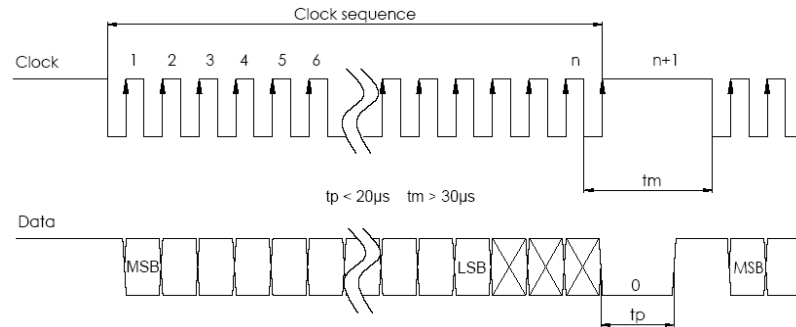


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## ELECTRICAL CHARACTERISTIC

Input signal clock CLK	per optocoupler	Clock frequency CLK	<ul style="list-style-type: none"> <li>• 100kHz to 1MHz for 13 bits encoder</li> <li>• <math>100\text{kHz} - F_{\text{max}} = 10^6 / (\text{resolution in bits} - 10)</math> for encoder &gt;13bits, ex : <math>F_{\text{max}}=166\text{kHz}</math> for 16 bits encoder</li> </ul>
Output signal DATA	line - driver RS422		
Power supply	5 – 30Vdc	Interrogation frame	n=13 bits for 13 bits resolution n=21bits for >13bits resolution
Introduction	< 200ms		
Consumption without load	Max. 100mA		

## SSI TRANSMISSION



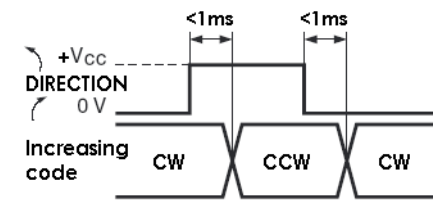
Transmission	Transmission up to 400m at 100kHz in function of the cable characteristics
Cable	High security of transmission by using shielded cable and twisted pairs

\* Consult us for length > 100m

## CONNECTIQUE STANDARD SSI

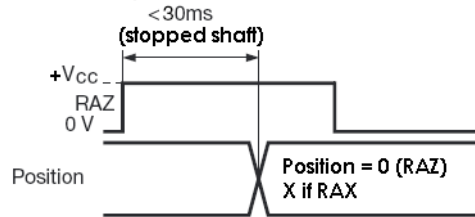
Type	+ Vcc	0 V	Clk+	Data+	RAZ	Data-	Clk-	DIRECTION
S6	1	2	3	4	5	6	7	9
S5	BN/GN Brown/Green	WH/GN White/Green	GN Green	GY Grey	BU Blue	PK Pink	BN Brown	WH White
S8	8	1	3	2	6	10	11	5

### DIRECTION input



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

### RAZ / RAX input



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

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

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

	Shaft Ø	Supply	Output stage	Code	Resolution	Connection	Orientation
CHO5	14 : 14mm	P : 5 to 30Vdc	CS : SSI without parity CP : SSI even parity CI : SSI odd parity	B : Binary  G : Gray	Power of 2 13: 13 bits standard option: 14: 14 bits to 16: 16 bits	S6 : M23 12pins CW for SSI transmission	R : radial
	S8 : M23 12pins CCW for SSI transmission						
	S5 : SSI cable, cable gland output					Example : R020 : radial cable of 2m	
CHO5	10 //	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 (option: 4096 ppr)
- A & B incremental outputs without index, 2048ppr (option: 4096 ppr)