CANopen ABSOLUTE SINGLE TURN ENCODERS, CHU9 RANGE

CHU9

CHU9, the new generation of CANopen absolute single turn encoders:

- Through hollow shaft version Ø30mm, reduction hubs available,
- 90mm encoder, extra-flat,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature –20°C to 80°,
- Universal power supply from 5 to 30 Vdc,
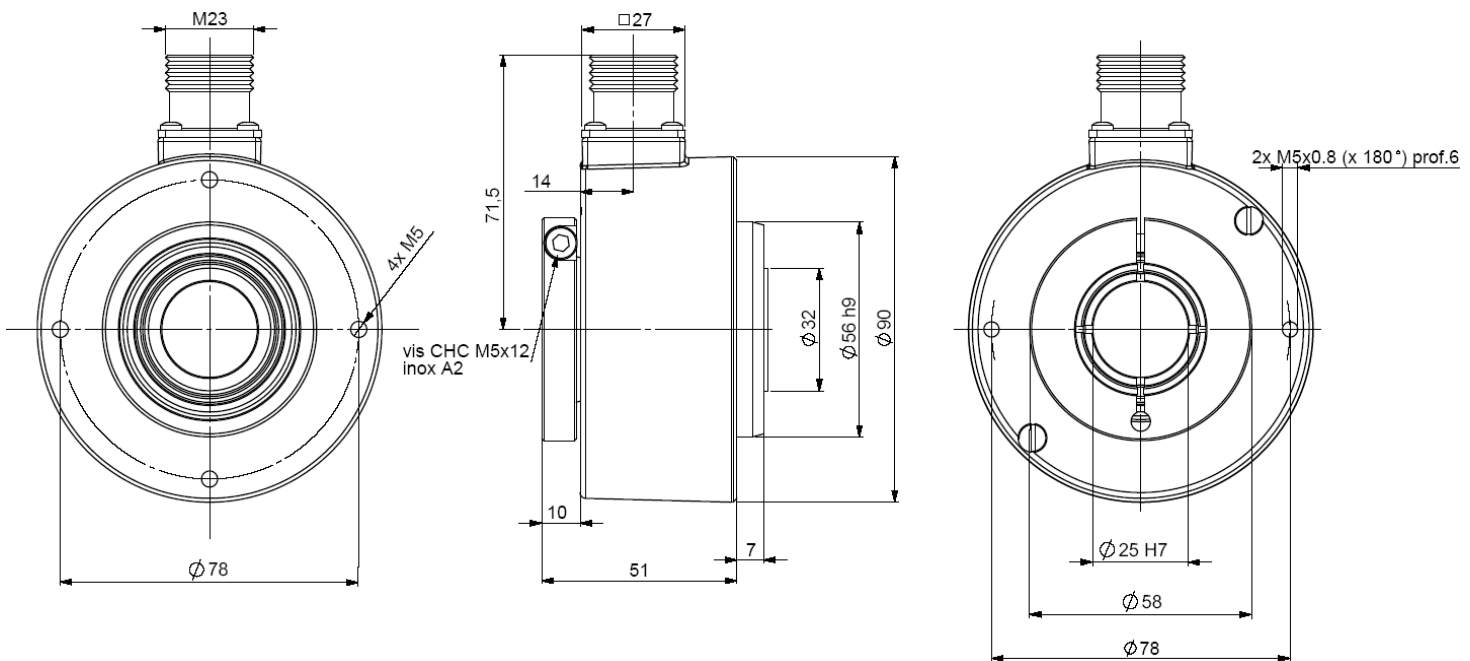- High resolutions up to 8192 points per turn (2^{13}).

CANopen
DS 301 V4.02
DS 406 V3.1

CHU9_25 connection BCR (radial M23), with reduction hub 9418/I25 (25mm) mounted on the shaft

MECHANICAL CHARACTERISTICS

Material Stainless steel option	Cover : zinc alloy	Vibrations (EN60068.2.6)	≤ 200m.s^{-2} (10 … 1 000Hz)	
	Body : aluminium	EMC	EN 61000-6-4, EN 61000-6-2	
Shaft	Inox	Isolation	500V (1min)	
Bearings	6807 serie	Encoder weight (approx.)	0,700 kg zinc alloy cover, alu body	
Maximal loads	Axial : 50 N		1,00 kg zinc alloy cover, stainless steel body	
	Radial : 80 N		1,20 kg stainless steel cover and body	
Shaft inertia	≤ 55.10^{-6} kg.m^2	Operating temperature	- 20 … + 80°C (encoder T°)	
Torque	≤ 25.10^{-3} N.m	Storage temperature	- 40... + 80°C	
Permissible max. speed	6 000 min^{-1}	Protection(EN 60529)	IP 65	
Continuous max. speed	3 600 min^{-1}	Torque (ring screw)	nominal: 3N.m, break: 4N.m	
Shaft seal	Viton	Theoretical mechanical lifetime 10^9 turns (F$_{axial}$ / F$_{radial}$)		
Shocks (EN60068.2.27)	≤ 500 m.s^{-2} (during 6 ms)	25 N / 40 N : 140	50 N / 80 N : 17	

ELECTRICAL CHARACTERISTICS

Power supply	5 – 30Vdc
Introduction	< 1 s
Consumption (without load)	< 50mA (at 24Vdc)
Accuracy	± ½ LSB (13 bits)

Programmable parameters

Resolution: defines the resolution per revolution (0 to 8 192),
Transmission speed: programmable from 10kBaud (1000m) to 1 Mbaud (40 m) ; value per default: 20 Kbaud,
Address: define the software address of the encoder on the bus (1 to 127, value by default: id = 1),
Direction: define the direction of count of the encoder,
RAX: defines the value of its preset position (non turning shaft),
CAM: Low and High Limits.

Communication modes

3 modes are available to interrogate the encoder:
POLLING mode: (Response to a RTR message): The position value is only given upon request (SDO mode),
CYCLIC mode: the encoder transmits its position in an asynchronous manner. The frequency of the transmission is defined by the programmable cyclical timer register from 0 to 65 535 ms,
SYNCHRO mode: the encoder transmits its position on a synchronous demand by the master.

CANOPEN CONNECTION

1	2	3	4	5	6	7	8, 9, 11	10	12
Reserved	CAN LOW	CAN GND	Reserved	Reserved	Reserved	CAN HIGH	Reserved	0V	+ 5/30Vdc

Pinout 3 (CAN GND) and 10 (0V) are connected together (intern the encoder).

Nota: Refer to the bus standards for the maximal derivation length.

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

	Shaft Ø	Power supply	Output stage	Code	Resolution	Connection	Connection orientation
CHU9	**30** : 30mm Reduction hubs available	**P** : 5 to 30Vdc	**BB** : CANopen	**B**: Binary	**13** : 8192 ppoints per revolution (2^{13})	**BC**: M23 12 pinouts clockwise	**R** : radial
CHU9 _	30 //	P	BB	B //	13 //	BC	R