

CANopen ABSOLUTE SINGLE TURN ENCODERS, CHM5 RANGE

CHM5, the new generation of CANopen absolute single turn encoders :

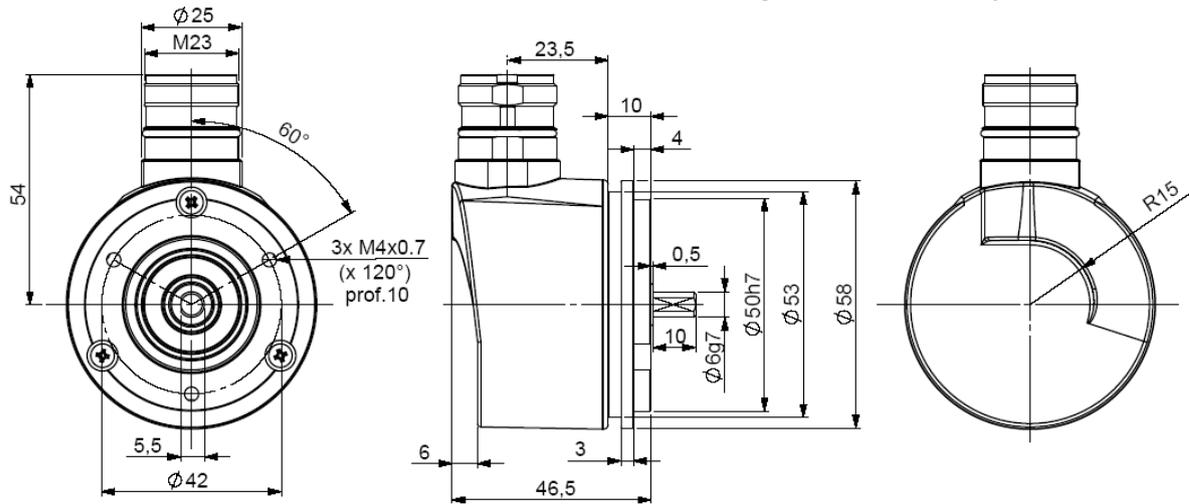
- Solid shaft version \varnothing 6 to 10mm,
- 58mm encoder, extra-flat,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65 (IP67 option)
- High performances in temperature -20°C to 85°C (-30°C option)
- Universal power supply from 5 to 30 Vdc,
- High resolutions up to 8192 points pre turn (2^{13}).

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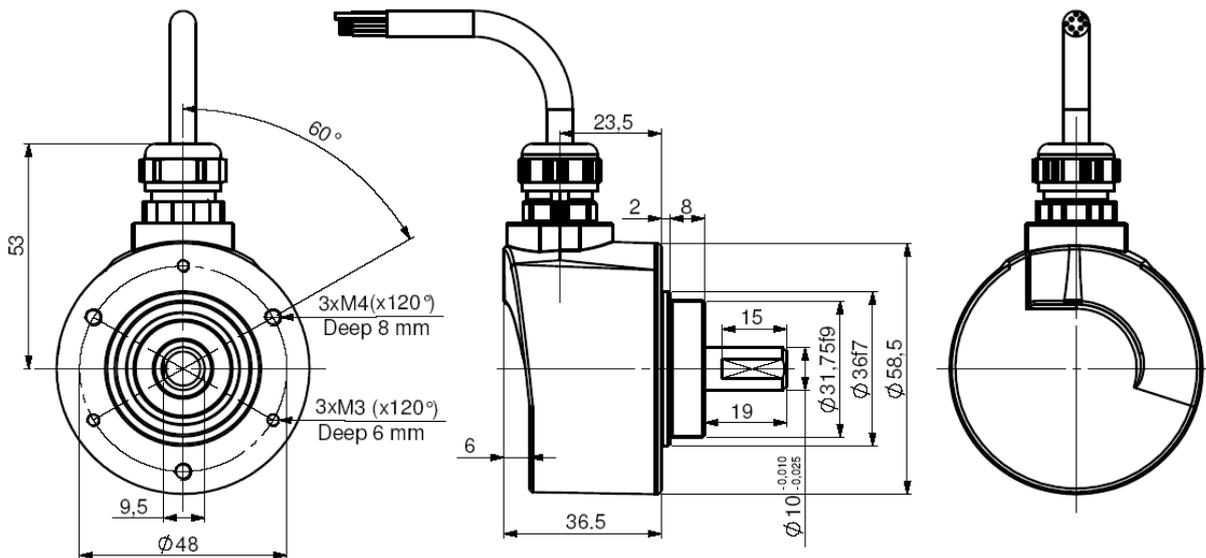
DS 301 V4.02
DS 406 V3.1



CHM5_06 radial M23 connection, 9500/003* flange mounted on body



CHM5_10 radial cable output



* Accessory to be ordered separately

Material	Cover : zinc alloy	Shocks (EN60068-2-27)	$\leq 500 \text{ m.s}^{-2}$ (during 6 ms)
	Body : aluminium	Vibrations (EN60068-2-6)	$\leq 100 \text{ m.s}^{-2}$ (10... 2 000 Hz)
	Shaft : stainless steel	EMC	EN 61000-6-4, EN 61000-6-2
Bearings	6 000 serie	Isolation	500V (1min)
Maximal loads	Axial : 50 N	Weight (approx.)	0,300 kg
	Radial : 100 N	Operating temperature	- 20 ... + 85 °C (Encoder T°)
Shaft inertia	$\leq 1.10^{-6} \text{ kg.m}^2$	Storage temperature	- 40 ... + 85 °C
Torque	$\leq 4.10^{-3} \text{ N.m}$	Protection(EN 60529)	IP 65
Permissible max. speed	$12\,000 \text{ min}^{-1}$	Theoretical mechanical lifetime 10^9 turns (F_{axial} / F_{radial})	
Continuous max. speed	$9\,000 \text{ min}^{-1}$	25 N / 50 N : 99	50 N / 100 N : 12

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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.

STANDARD M23 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
CHM5	10 : 10mm 06 : 6mm	P : 5 to 30Vdc	BB : CANopen	B: Binary	13 : 8192 points per revolution (2 ¹³)	BC: M23 12 pinouts clockwise	R : radial
CHM5 _	10 //	P	BB	B //	13 //	BC	R

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