

Incremental Optical Encoder with hollow through shaft



Main features

PRECILEC optical incremental encoders are designed for accurately measuring speed and position of rotating shafts in industrial environment: machine tools, packing machines, motor drives...

They use a differential optical and ratio metric principle to minimize temperature and photodiode aging effects.

Their universal complementary push-pull output interface and their large supply voltage range make them very easy to connect to most of electronic control units with high noise immunity.

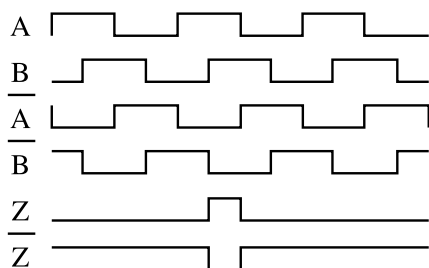
● Shaft type	20, 25, 30, 42mm and 1 inch stainless steel hollow through shaft
● Housing diameter	115mm
● Fixation	Spring plate
● Body	Aluminium
● Pulses per turn	Standard 1024 Others on request
● Output signals	A and B with gated Z
● Termination	Radial cable
● Operating temperature range (encoder body)	- 25° C / + 85° C

Electrical characteristics

● Supply voltage	4,5 to 30V DC with reverse polarity protection
● No load supply current	100mA under 4.5V – 25mA under 24V
● Output signals	Universal complementary push pull, short circuit protected (7272) RS422 compatible with 5V supply voltage
● Max output frequency	300 kHz
● Max load current per channel	20mA
● EMC	According to EN 61000-6-2 and EN 61000-6-4

● Output waveforms:

A leads B for clockwise rotation from front size



Connections

	Cable	M23	MS310
A	white	5	A
A	yellow	6	H
B	blue	8	B
B	orange	1	I
Z	green	3	C
Z	brown	4	J
Vcc:	red	12	D
OV:	black	10	F
Ground case	Drain	9	G

Cable: 8 AWG24 (0.22mm²) wires globally shielded, UL approved

Mechanical characteristics

● Max speed	3000rpm
● Starting torque	≤ 30N.cm
● Inertia	970gr.cm ² without reducing ring
● Weight	560gr without reducing ring
● Protection	IP64 at shaft inlet, IP 65 at housing (IEC 60529)
● Max shock	100g, 6ms (IEC 68-2-27)
● Max vibrations	10g, 10-2000Hz (IEC 68-2-6)

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Distribución de componentes eléctricos y electrónicos



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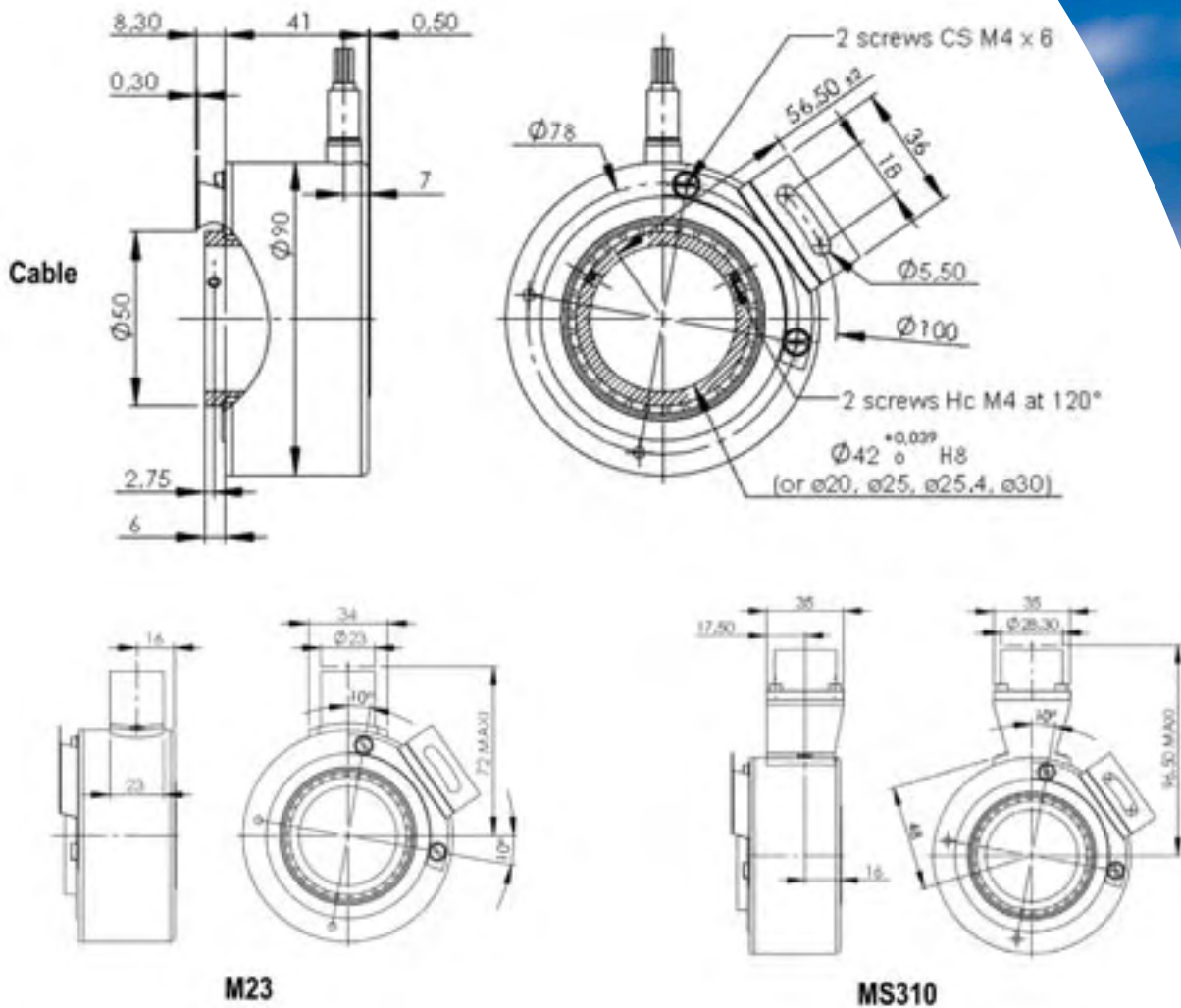
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Outline drawings



Ordering codes

RCI 90A - FSx - xxxx - x

HSx:
Hollow shaft

- HS1:** 20mm*
- HS2:** 25mm*
- HS3:** 1 inch*¹
- HS4:** 30mm*
- HS5:** 42mm

Other shafts on request

*with reducing ring

¹Cable or MS310 termination only

xxxx:
Pulses per turn
1024

Other resolutions on request,

x:
Termination

- 1:** cable, one meter standard length.
Other lengths on request, from 0.5 to 10 meters. Beyond 10 meters a cable with twisted pairs must be used.
- 2:** M23 12 pins clockwise receptacle*
- 3:** MS310 10 pins receptacle

*Other versions on request

Rev B, 23/02/06 - We reserve the right to modify technical characteristics in the interest of technological advance.



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