

RCI90S/T HS

Hollow Shaft - Incremental Optical Encoder



PRECILEC optical incremental encoders are designed for accurately measuring speed and position of rotating shafts in industrial environment: machine tools, motor drives ... They use a differential optical measurement and a ratio-metric processing of the signal for minimizing the 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.



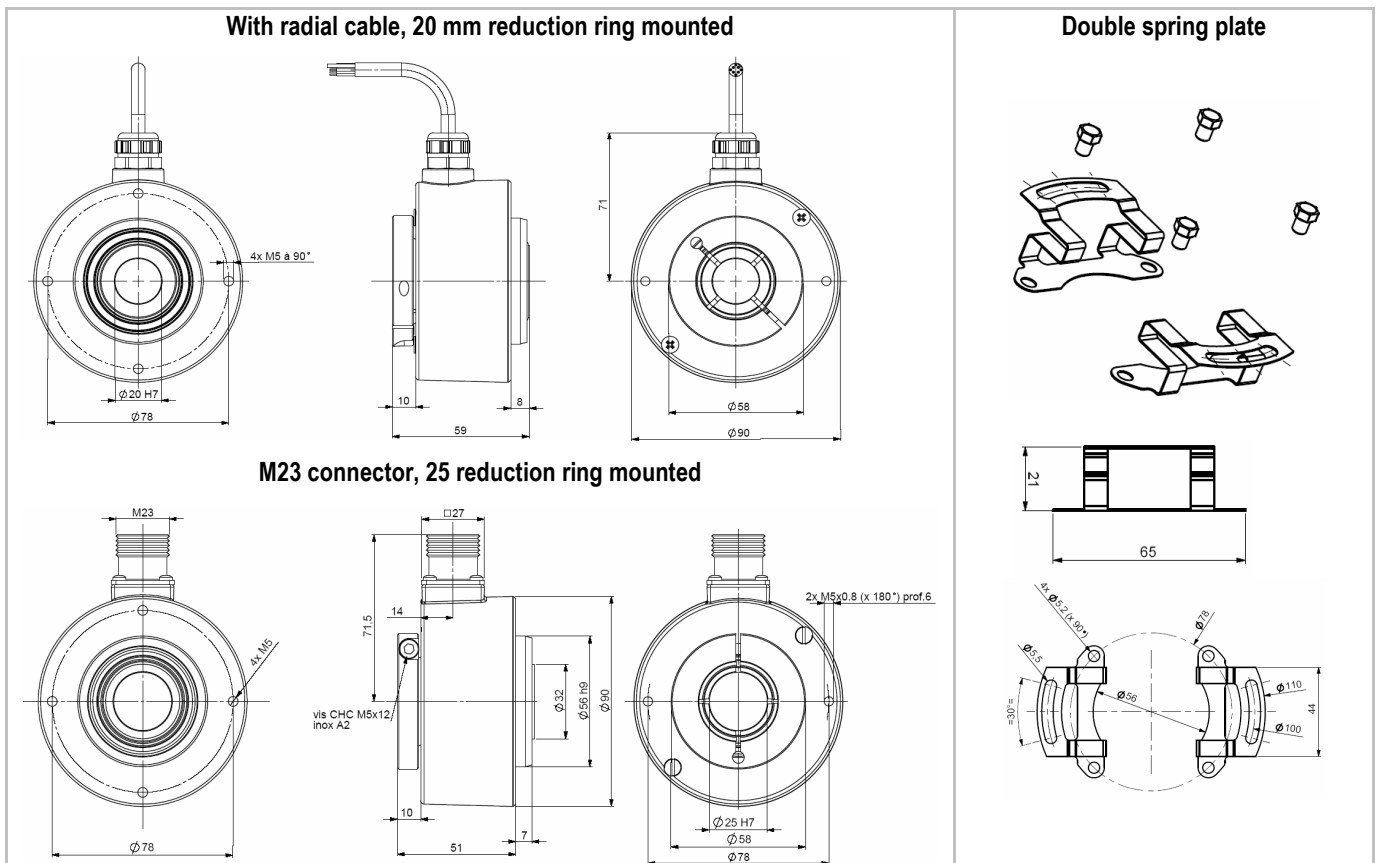
Main features

- Shaft type: Hollow shaft \varnothing 30 mm, and others diameters available (12, 20, 25 mm) with reduction ring in composite for thermal and electric insulation
- Housing diameter: 90 mm
- Fixation: 2 spring plates
- Body - Cover: Aluminium - Zinc alloy
- Shaft: Stainless steel
- Pulses per turn: Up to 10.000 ppr
- Output signals: A & B with gated Z
- Connections: Radial cable or M23 (CW and CCW)
- Operating temperature range: -20°C / $+80^{\circ}\text{C}$ (standard resolutions)



Tel.: (+34) 902 450 160
Fax: (+34) 902 433 088
ermec@ermec.com
www.ermec.com

Outline drawings



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Electrical characteristics

Supply voltage	11 to 30 Vdc	5 Vdc
Output signals	Push-pull (T)	RS422 (S)
Max output frequency	100 kHz	
Max load current per channel	40 mA max	
EMC	According to EN 61000-6-2 and EN 50081-1	

Connections

	Cable - 8 wires	M23 - CW	M23 - CCW	Output waveforms
A	green	3	8	<p>Seen from the shaft</p>
A/	pink	6	1	
B	yellow	4	5	
B/	blue	7	6	
Z	grey	5	3	
Z/	red	8	4	
Vcc (+)	brown	2	2 + 12	
Gnd (-)	white	1	10 + 11	
Ground case	General shielding	Connector body	Connector body	

Mechanical characteristics

- Max continuous speed 3 600 min⁻¹
- Max permissible speed 6 000 min⁻¹
- Starting torque ≤ 25.10⁻³ N.m
- Shaft Inertia ≤ 55.10⁻⁶ kg.m²
- Weight 700 gr
- Protection IP 65 (EN 60529)
- Max shock ≤ 500 m.s⁻² (during 6 ms) (EN60068-2-27)
- Max vibrations ≤ 200 m.s⁻² (55 ... 2 000 Hz) (EN60068-2-6)



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Ordering code

RCI90T-HS30-T-04096-CA02

Output signal Ø Spring plate Resolution Connection

- Output signals** T (Push-Pull) S (RS422)
- Diameters** 30 (30 mm), 12 (12 mm), 20 (20 mm), 25 (25 mm) with reduction ring in composite
Others diameters upon request for thermal and electric insulation
- Spring plates** T (two spring plates with 1 fixation arm)
- Available resolutions** 1 2 3 4 5 6 7 8 9 10 12 13 14 15 16 19 20 21 24 25 26 28 29 30 32 35 36 39 40 43 45 46 48 50 54 56 58 60 62 63 64 66 67 70 72 74 75 76 80 84 86 88 89 90 91 94 96 100 107 110 120 122 123 125 127 128 130 132 135 138 140 147 150 157 159 160 168 169 170 172 175 180 188 191 196 200 201 205 220 222 225 234 240 241 242 245 246 248 250 254 255 256 258 259 267 268 275 283 285 295 300 305 314 315 318 320 330 340 350 360 367 375 378 380 381 388 390 397 400 405 410 424 425 438 443 450 471 480 489 495 500 505 512 515 534 540 550 565 580 600 623 625 628 630 632 635 650 660 700 720 746 750 752 754 800 810 840 860 880 891 900 942 990 1000 1024 1080 1100 1131 1200 1225 1250 1260 1280 1290 1400 1414 1440 1500 1536 1570 1600 1620 1630 1750 1800 1885 2000 2048 2250 2400 2500 2640 3000 3456 3600 3680 3750 4000 4096 4500 4900 5000 7200 9000 10000
- Connections** CA02: Cable, two meters standard length. Other lengths on request, from 1 to 10 meters
23C0: M23 connector, 12 pins clockwise (CW)
23A0: M23 connector, 12 pins counter-clockwise (CCW)