

# RCI58S/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.

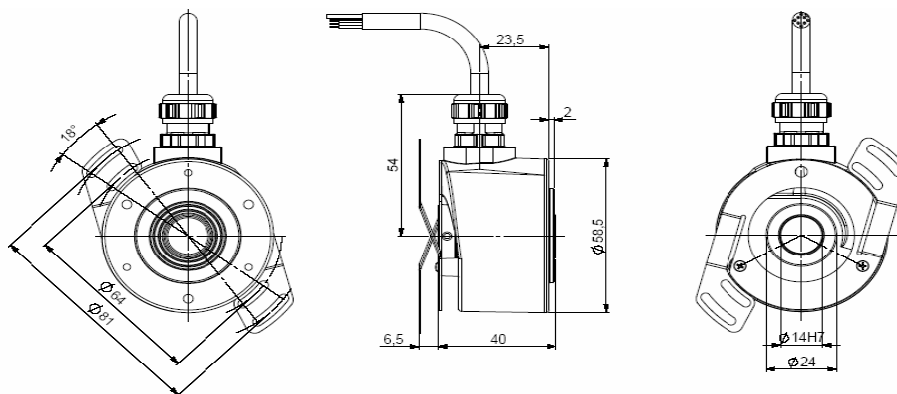


### Main features

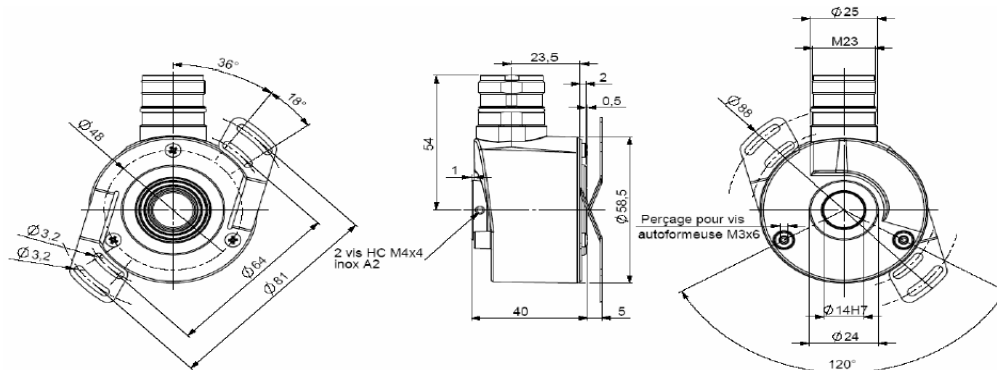
- Shaft type: Hollow shaft  $\varnothing 14$  mm, and others diameters available (6, 8, 10, 12 mm) with reduction ring in aluminium
- Housing diameter: 58 mm
- Fixation: Spring plates with 2 or 3 fixation arms
- Body - Cover: Aluminium – Zamac
- Shaft: Stainless steel
- Pulses per turn: Up to 10.000 ppr
- Output signals: A & B with gated Z, and negatives
- Connections: Radial cable or M23
- Operating temperature range:  $- 30^{\circ}\text{C} / + 100^{\circ}\text{C}$  (standard resolutions) /  $- 20^{\circ}\text{C} / + 80^{\circ}\text{C}$  (specific resolutions)

### Outline drawings

Spring plate with two fixation arms (2), with radial cable (CA02)



Spring plate with two fixations (2), with M23 connector (23C0)



ERMEC, S.L. BARCELONA  
C/ Francesc Teixidó, 22  
E-08918 Badalona  
(Spain)

Tel.: (+34) 902 450 160  
Fax: (+34) 902 433 088  
[info@ermec.com](mailto:info@ermec.com)  
[www.ermec.com](http://www.ermec.com)

ERMEC, S.L. MADRID  
C/ Sagasta, 8, 1ª planta  
E-28004 Madrid  
(Spain)

PORTUGAL  
[portugal@ermec.com](mailto:portugal@ermec.com)  
BILBAO  
[bilbao@ermec.com](mailto:bilbao@ermec.com)

PRECILEC

6 avenue des Andes – Bâtiment n°5 – 91940 Les Ulis – France - Phone + 33 169 80 67 04 – Fax + 33 169 80 67 08 - [www.precilec.com](http://www.precilec.com) – [precilec@zodiac aerospace.com](mailto:precilec@zodiac aerospace.com)  
SAS au capital de 1 434 812 € - RC Auxerre 65 B 20 – SIRET 542 103 031 00028 – APE 2711 Z – TVA UE : FR 24 542 103 031

Technical modifications reserved

D-0509

# RCI58S/T HS

## Hollow Shaft - Incremental Optical Encoder

### Electrical characteristics

|                              | Standard resolutions                     |           | Specific resolutions |           |
|------------------------------|--|-----------|----------------------|-----------|
|                              | 5 to 30 Vdc                              | 5 Vdc     | 11 to 30 Vdc         | 5 Vdc     |
| Supply voltage               | 5 to 30 Vdc                              | 5 Vdc     | 11 to 30 Vdc         | 5 Vdc     |
| Output signals               | Push-pull (T)                            | RS422 (S) | Push-pull (T)        | RS422 (S) |
| Max output frequency         | 300 kHz                                  |           | 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 6 000 rpm
- Max permissible speed 9 000 rpm
- Starting torque  $\leq 6.10^{-3}$  N.m
- Shaft Inertia  $\leq 2,2.10^{-6}$  kg.m<sup>2</sup>
- Weight 300 gr
- Protection IP 65 (EN 60529)
- Max shock  $\leq 500$  m.s<sup>-2</sup> (during 6 ms) (EN60068-2-27)
- Max vibrations  $\leq 100$  m.s<sup>-2</sup> (55 ... 2 000 Hz) (EN60068-2-6)



Tel.: (+34) 902 450 160  
Fax: (+34) 902 433 088  
[ermec@ermec.com](mailto:ermec@ermec.com)  
[www.ermec.com](http://www.ermec.com)

### Ordering code

## RCI58T-HS14-1-01024-CA02

Output signal      Ø Spring plate      Resolution      Connection

- **Output signals** T (Push-Pull) S (RS422)
- **Diameters** 14 (14 mm)
- **Spring plates** 06 (6 mm), 08 (8 mm), 10 (10 mm) and 12 (12) mm with reduction ring in aluminium
- **Standard resolutions** 2 (2 fixation arms, standard) 3 (3 fixation arms)
- **Standard resolutions** 5 10 20 25 30 50 60 100 120 125 127 150 180 200 240 250 256 300 314 360 375 400 500 512 600 720 750 768 800 927 1000 1024 1200 1250 1280 1440 1500 1800 2000 2048 2400 2500 3000 3600 4000 4096 5000 6000 7200 8000 8192 10000
- **Specific resolutions** Any others resolutions available from 1 to 2499
- **Connections** CA02: Cable, two meters standard length. Other lengths from 1 to 10 meters on request  
23C0: M23 connector, 12 pins clockwise  
23A0: M23 connector, 12 pins counter-clockwise  
**Other connections on request**