

TECHNICAL DATASHEET

Incremental Encoder RI42-O



- Economical miniature encoder
- High protection IP65
- Incremental output HTL or TTL
- High mechanical efficiency
- Up to 4.096 steps with 1.024 pulses
- 10.000 rpm continuous operation
- Applications: textile machinery

ICURO[®]
industry



Number of pulses

5/ 10 / 20 / 25 / 30 / 50 / 60 / 72 / **100** / 128 / 144 / 200 / 250 / 300 / 360 / 400 / **500** / 512 / 600 / 720 / 900 / **1000** / 1024 / 1250 / 2500 / 3600
Other number of pulses on request

TECHNICAL DATA mechanical

| | |
|---|---------------------------------------|
| Housing diameter | 40 mm |
| Shaft diameter | 6 mm (Solid shaft) |
| Flange (Mounting of housing) | Pilot flange |
| Protection class shaft input (EN 60529) | IP64 |
| Protection class housing (EN 60529) | IP65 |
| Shaft load axial / radial ¹ | 5 N / 10 N |
| Max. speed ¹ | max. 10.000 U/min |
| Starting torque | ≤ 1 Ncm |
| Vibration resistance ¹ (DIN EN 60068-2-6) | 100 m/s ² (10 ... 2000 Hz) |
| Shock resistance ¹ (DIN EN 60068-2-27) | 1000 m/s ² (6 ms) |
| Operating temperature ¹ | 0 °C ... +60 °C |
| Storage temperature | -25 °C ... +85 °C |
| Material shaft | Aluminum |
| Material housing | Plastic |
| Weight | approx. 75 g |
| Connection | Cable, axial |

¹ higher values on request

Specifications subject to change without notice.

| | | |
|----------------------|---|------|
| Datasheet | © Hengstler GmbH Umlandstr. 49 D-78554 Aldingen/ Germany | Page |
| Version 3 05022021HF | +49 74 24 -89 0 E-mail: info@hengstler.com Internet: www.hengstler.com | 1/4 |

TECHNICAL DATASHEET

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TECHNICAL DATA electrical

| | |
|---------------------------------------|---|
| General design | as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class I |
| Supply voltage ¹ | Push-pull (D): DC 5 V ±10 % Push-pull (K): ± 10% DC 5 V or DC 10 - 30 V Push-pull antivalent (I): DC 10-30 V |
| Max. current w/o load | 40 mA (DC 5 V), 30 mA (DC 24 V, with push-pull K, I) |
| Max. pulse frequency | DC 5 V: 300 kHz DC 10 - 30 V: 200 kHz DC 10 - 24 V: 50 kHz |
| Standard Output versions ² | Push Pull (K): A, B, N, Alarm Push Pull (D): A, B, N, Alarm Push Pull complementary (I): A, B, N, \bar{A} , \bar{B} , \bar{N} , $\overline{\text{Alarm}}$ |
| Pulse width error | ± max. 25° electrical |
| Number of pulses | 5 ... 1024 |
| Alarm output | NPN-O.C., max. 5 mA |
| Pulse shape | Square wave |
| Pulse duty factor | 1:1 |

¹ With push-pull (K): pole protection

² Output code (K): short-circuit-proof

ELECTRICAL CONNECTION Cable PVC

| Cable PVC Colour | Output circuit | | |
|---------------------|----------------|---------------|-----------------------------|
| | Push Pull (K) | Push Pull (D) | Push Pull complementary (I) |
| white | Channel A | Channel A | Channel A |
| white/brown | | | Channel \bar{A} |
| green | Channel B | Channel B | Channel B |
| green/brown | | | Channel \bar{B} |
| yellow | Channel N | Channel N | Channel N |
| yellow/brown | | | Channel \bar{N} |
| yellow/black | Alarm | Alarm | Alarm |
| yellow/red | | | Sense V _{cc} |
| red | DC 10 - 30 V | DC 5 V | DC 10 - 30 V |
| black | GND | GND | GND |

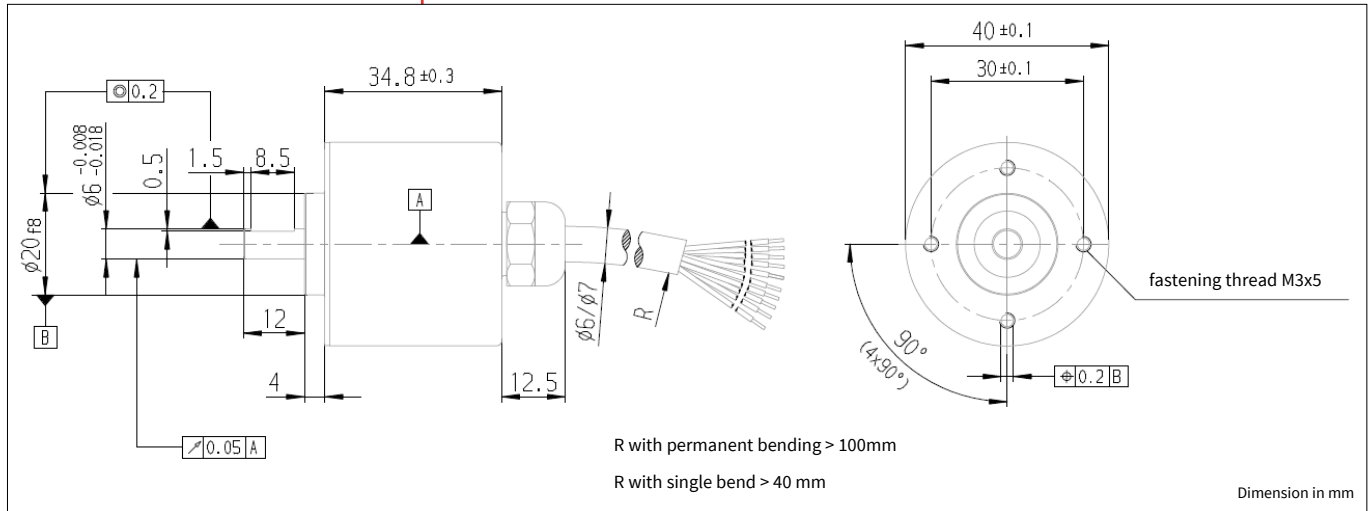
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DIMENSION DRAWING



ORDERING INFORMATION

| Type | Number of pulses | Power voltage ^{1,2} | Flange, Protection, Shaft | Output ³ | Connection |
|--|--------------------------|--|-------------------------------|--|---------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RI42-O | 5 ... 3600 | A DC 5 V E DC 10 - 30 V | R.41 Pilot, IP64, 6 mm | K Push Pull I Push Pull, complementary D Push Pull 5V | A PVC-cable, axial |
| ¹ DC 5 V: only with output D available ² DC 10-30 V: only with output K,I available ³ Output K, I short circuit proof | | | | | |

ORDERING INFORMATION

Selection of cable length

The cable outlet (connection A) is available with different cable lengths. To obtain the desired cable length, please put the corresponding code at the end of the order key. For variants with a plug at the end of the cable, insert the code between the selection of cable length and plug. Other cable lengths on request.

| Code | Cable length | Code | Cable length |
|--------------|--------------|------|--------------|
| without Code | 1,5 m | -U0 | 20 m |
| -D0 | 3 m | -V0 | 25 m |
| -F0 | 5 m | -W0 | 30 m |
| -K0 | 10 m | -X0 | 40 m |
| -P0 | 15 m | -Y0 | 50 m |

Specifications subject to change without notice.

TECHNICAL DATASHEET

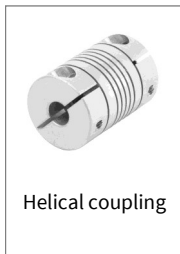
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Accessories

FLEXIBLE COUPLINGS



Isolated disk coupling

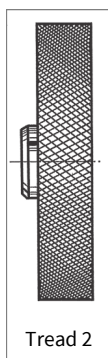


Helical coupling



Plastic coupling

MEASURING WHEELS



Tread 2

| | Bore diameter d1/d2 | Item.-No. |
|------------------------|---------------------|-----------|
| Isolated disk coupling | 6 mm / 6 mm | 3 520 081 |
| Isolated disk coupling | 6 mm / 10 mm | 3 520 082 |
| Isolated disk coupling | 6 mm / 9,53 mm | 3 520 084 |
| Plastic coupling | 5 mm / 6 mm | 3 520 033 |
| Plastic coupling | 6 mm / 6 mm | 1 761 026 |
| Helical coupling 19/28 | 5 mm / 6 mm | 3 520 035 |
| Helical coupling 19/28 | 6 mm / 6 mm | 0 070 653 |
| Helical coupling 25/32 | 6 mm / 9,53 mm | 3 520 052 |
| Helical coupling 25/32 | 6 mm / 10 mm | 3 520 066 |

Tread 2

With glued-on rubber profile, white studded covering, especially more adhesive Rubber covering, low wear. Application: e.g. for paper and cardboard, cable measurement, fat-free metals, fleece, raw or surface-treated wood, soft and hard plastics.

| Bore Ø | Circumference | Tread | Width of bearing surface | Bore - Ø in mm | Item.-No. |
|--------|---------------|-------|--------------------------|----------------|-----------|
| 6,37cm | 0,2 m | 2 | 12 | 6 H7 | 0 601 048 |

Specifications subject to change without notice.