Incremental Encoder RI 32

- Replacement for type Typ RIS and RI 31
- The economical encoder for small appliances
- High efficiency by means of ball bearing
- Small torque
- Applications: laboratory equipment, training equipment, crimping machines, tampon printing machines, miniature grinding machines

NUMBER OF PULSES

5 / 10 / 20 / 25 / 30 / 50 / 60 / 100 / 120 / 128 / 200 / 250 / 288 / 300 / 360 / 400 / 500 / 512 / 600 / 720 / 900 / 1000 / 1024 / 1250 / 1500
Other number of pulses on request

TECHNICAL DATA

mechanical

- Housing diameter: 30 mm
- Shaft diameter: 5 mm / 6 mm (Solid shaft)
- Flange (Mounting of housing): Pilot flange
- Protection class shaft input (EN 60529): IP40
- Protection class housing (EN 60529): IP50
- Shaft load axial / radial: 5 N / 10 N
- Max. speed: max. 6000 rpm
- Torque: ≤ 0.05 Ncm
- Vibration resistance (DIN EN 60068-2-6): 100 m/s² (10 ... 2000 Hz)
- Shock resistance (DIN EN 60068-2-27): 1000 m/s² (6 ms)
- Operating temperature: -10 °C ... +60 °C
- Storage temperature: -25 °C ... +85 °C
- Material shaft: Aluminum
- Material housing: Plastic
- Weight: approx. 50 g
- Connection: Cable, axial or radial

electrical

- General design: as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II
- Supply voltage ¹: Push-pull (D): DC 5 V ±10 %
  Push-pull (K): ± 10% DC 5 V or DC 10 - 30 V
- Max. current w/o load: 40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)
- Max. pulse frequency: DC 5 V: 300 kHz
  DC 10 - 30 V: 200 kHz
- Standard output versions ²: Push-pull (K): A, B, N, Alarm
  Push-pull 5V, ± 30 mA (D): A, B, N, Alarm
- Pulse width error: ± max. 25° electrical
- Number of pulses: 5 ... 1500
- Alarm output: NPN-O.C., max. 5 mA
- Pulse shape: Square wave
**TECHNICAL DATASHEET**

**Incremental Encoder RI 32**

**Pulse duty factor** 1:1

1. With push-pull (K): pole protection
2. Output code "K": short-circuit-proof

### TECHNICAL DATA

#### Electrical (continued)

**ELECTRICAL CONNECTIONS**

**Cable**

<table>
<thead>
<tr>
<th>Description (push-pull)</th>
<th>Lead Ø mm</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC 5 V/10 - 30 V</td>
<td>0.5</td>
<td>red</td>
</tr>
<tr>
<td>Channel A</td>
<td>0.14</td>
<td>white</td>
</tr>
<tr>
<td>Channel B</td>
<td>0.14</td>
<td>green</td>
</tr>
<tr>
<td>Channel N</td>
<td>0.14</td>
<td>yellow</td>
</tr>
<tr>
<td>GND</td>
<td>0.5</td>
<td>black</td>
</tr>
<tr>
<td>Alarm</td>
<td>0.14</td>
<td>yellow/black</td>
</tr>
</tbody>
</table>

**DIMENSIONED DRAWINGS**

<1> mounting thread M3x4

Cable bending radius R for flexible installation ≥ 100 mm

Cable bending radius R for fixed installation ≥ 40 mm

Dimensions in mm

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of pulses</th>
<th>Supply voltage 1</th>
<th>Flange, Protection, Shaft 2, 3</th>
<th>Output 4, 5</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>RI32</td>
<td>5 ... 1500</td>
<td>A DC 5 V E DC 10 - 30 V</td>
<td>R.14 Pilot, IP40, 5 mm R.11 Pilot, IP40, 6 mm</td>
<td>K Push-pull D Push-pull 5V, ± 30 mA</td>
<td>A Cable, axial B Cable, radial</td>
</tr>
</tbody>
</table>

1. DC 10 - 30 V: only with output 'K' available
2. R.11: flattened, see dimensional drawing
3. R.14: not flattened
4. Output code "K": ±10 mA at DC 5 V, ±30 mA at DC 10 - 30 V
5. Output code "K": short-circuit-proof
### TECHNICAL DATASHEET

**Incremental Encoder RI 32**

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. Further cable lengths on request.

<table>
<thead>
<tr>
<th>Code</th>
<th>Cable length</th>
</tr>
</thead>
<tbody>
<tr>
<td>without code</td>
<td>1.5 m</td>
</tr>
<tr>
<td>-D0</td>
<td>3 m</td>
</tr>
<tr>
<td>-F0</td>
<td>5 m</td>
</tr>
<tr>
<td>-K0</td>
<td>10 m</td>
</tr>
<tr>
<td>-P0</td>
<td>15 m</td>
</tr>
<tr>
<td>-U0</td>
<td>20 m</td>
</tr>
<tr>
<td>-V0</td>
<td>25 m</td>
</tr>
</tbody>
</table>
FLEXIBLE COUPLINGS

Plastic coupling

MEASURING WHEELS

Tread 1
with rim and fine crosshatched knurl
Applications such as threads and yarns

Tread 2 B
with glued-on rubber profile B = low-wear rubber surface with good grip (white)
Applications such as paper and cardboard, measuring cables, nongreasy metals, fleece, undressed or surface-treated wood, soft and hard plastics

<table>
<thead>
<tr>
<th>Material</th>
<th>Bore diameter (mm) fitting to encoder shaft</th>
<th>Circumference</th>
<th>Tread</th>
<th>Width of bearing surface</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>6 mm</td>
<td>0.2 m</td>
<td>1</td>
<td>4 mm</td>
<td>0 601 015</td>
</tr>
<tr>
<td>Aluminum</td>
<td>6 mm</td>
<td>0.2 m</td>
<td>2 B</td>
<td>12 mm</td>
<td>0 601 048</td>
</tr>
</tbody>
</table>