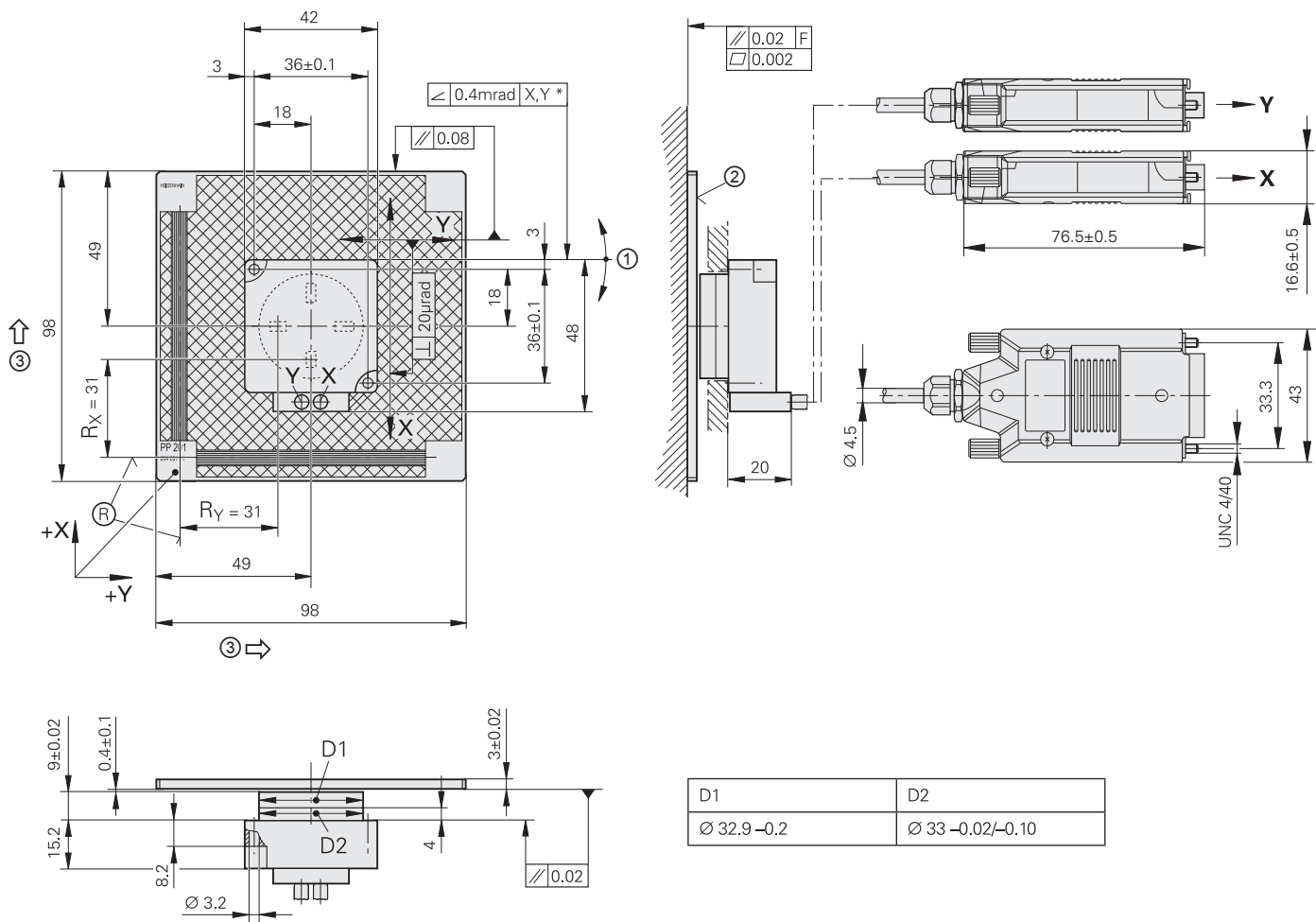


PP 281 R

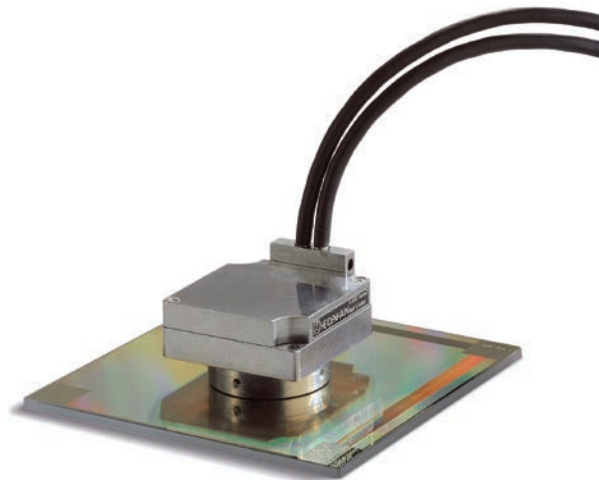
Two-coordinate incremental encoder

- For measuring steps of 1 µm to 0.05 µm



mm
Tolerancing ISO 8015
ISO 2768:1989-mH
≤ 6 mm: ±0.2 mm

* = Maximum change during operation
F = Machine guideway
Ⓡ = Reference-mark position relative to center position shown
1 = Adjusted during mounting
2 = Graduation side
3 = Direction of motion of the scanning unit for ascending position values



	PP 281 R
Measuring standard Coefficient of linear expansion	Two-coordinate TITANID phase grating on glass; grating period: 8 µm $\alpha_{\text{therm}} \approx 8 \cdot 10^{-6} \text{ K}^{-1}$
Accuracy grade	±2 µm
Measuring area	68 mm x 68 mm, other measuring ranges upon request
Reference marks ¹⁾	One reference mark in each axis, 3 mm after beginning of measuring length
Interface	~ 1 V _{PP}
Signal period	4 µm
Cutoff frequency –3 dB	≥ 300 kHz
Traversing speed	≤ 72 m/min
Interpolation error RMS position noise	±12 nm ³⁾ 2 nm (450 kHz ²⁾)
Electrical connection	Cable (0.5 m) with 15-pin D-sub connector (male); interface electronics in the connector
Cable length	See the interface description; however ≤ 30 m (with HEIDENHAIN cable)
Supply voltage	DC 5 V ±0.25 V
Current consumption	< 185 mA per axis
Vibration 55 Hz to 2000 Hz Shock 11 ms	≤ 80 m/s ² (EN 60068-2-6) ≤ 100 m/s ² (EN 60068-2-27)
Operating temperature	0 °C to 50 °C
Mass	Scanning head: 170 g (without cable) Grid plate: 75 g Encoder cable: 37 g/m Connector: 140 g

¹⁾ The reference mark signal deviates from the interface specification in its zero crossovers K, L (see the mounting instructions)
²⁾ –3 dB cutoff frequency of the downstream electronics
³⁾ With HEIDENHAIN interface electronics (e.g., EIB 741)