

## Checking the accuracy of robot trajectories

The measurement of the trajectory accuracy or its reproducibility is carried out along a diagonal straight line in space. The robot moves the measuring head, which is fitted with sensors, along a steel rule. The deflection of the 2m long rule due to its own weight is compensated by software. Through the arrangement with six sensors both position and orientation deviations are acquired simultaneously.



### Technical details

- Measuring range: 0 - 15 mm
- Accuracy:  $10 \mu\text{m}$
- Band width:  $\leq 2 \text{ kHz}$

### Ambient conditions

- Temperature: Room temp. 15 -25 °C
- Medium: Air
- Interference fields: EM fields due to the robot drive motors
- Measurement object may be slightly oily.

### Measurement system setup

- |           |                            |
|-----------|----------------------------|
| RS584     | 8-channel desktop housing  |
| IEC800    | Bus interface.             |
| 6 x DL500 | Demodulator plug-in module |
| 6 x U15   | Unscreened sensor          |

### Reasons for the system selection

- Non-contacting method (preference for non-contacting systems in ISO 9283)
- High accuracy (bandwidth)
- Economical price
- Insensitive to dirt, oil, electrical and magnetic fields

### Principle

