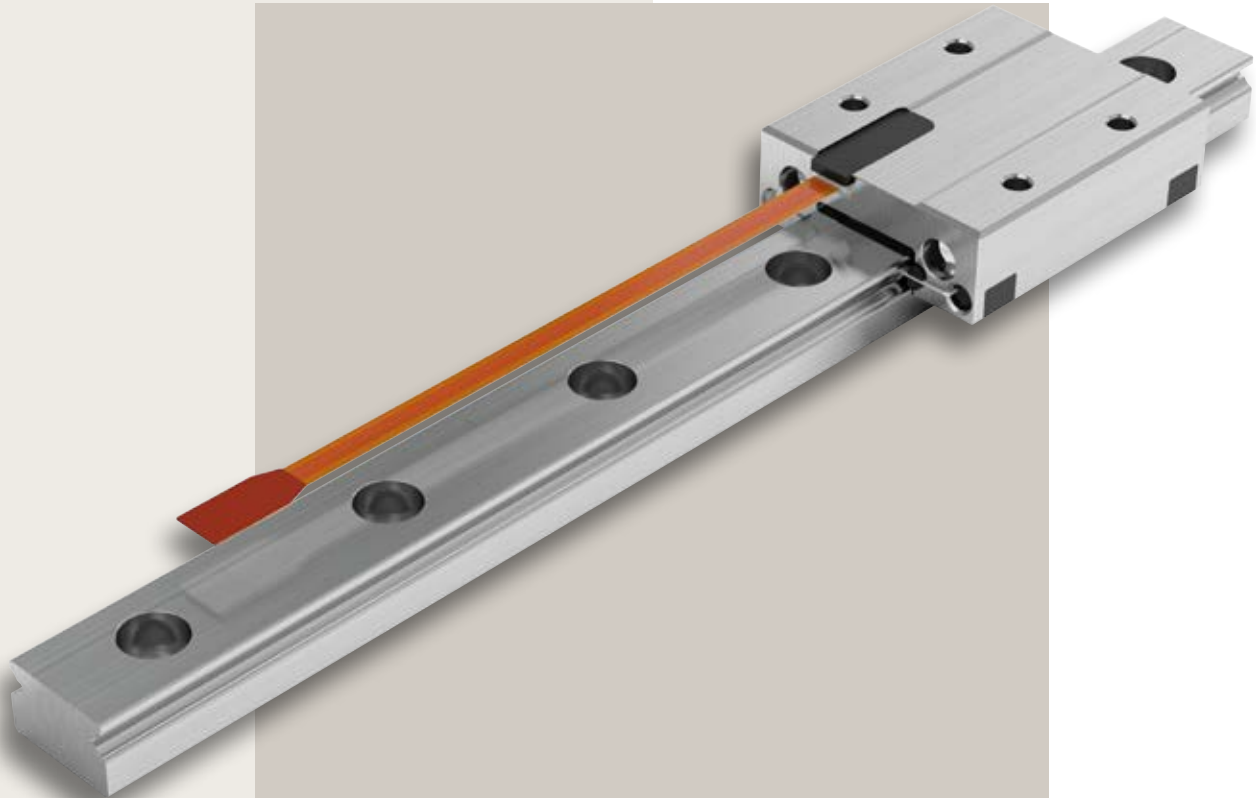


**New!**



### **MINISCALE PLUS**

The unique miniature guideway  
with integrated measuring system  
and a resolution of 0.1  $\mu\text{m}$

## MINISCALE PLUS MEASURING SYSTEM

# The MINISCALE PLUS linear measuring system integrated into MINIRAIL the SCHNEEBERGER miniature guideway

The MINISCALE PLUS measuring system is a fantastic innovation and combines <guiding> and <measuring> into one. Thanks to its integrated design, MINISCALE makes even the most compact applications possible and means that the design and installation process is significantly less complex.

As a result, MINISCALE PLUS is an extremely economical solution which meets stringent technical requirements.

MINISCALE PLUS is based on the MINIRAIL miniature guideway, consisting of eight rail widths and up to four carriage types.

### Brief overview of the advantages:

#### Integrated, compact design

- The optical sensor is integrated into the carriage and does not require any additional installation space.

#### Minimal design preparations

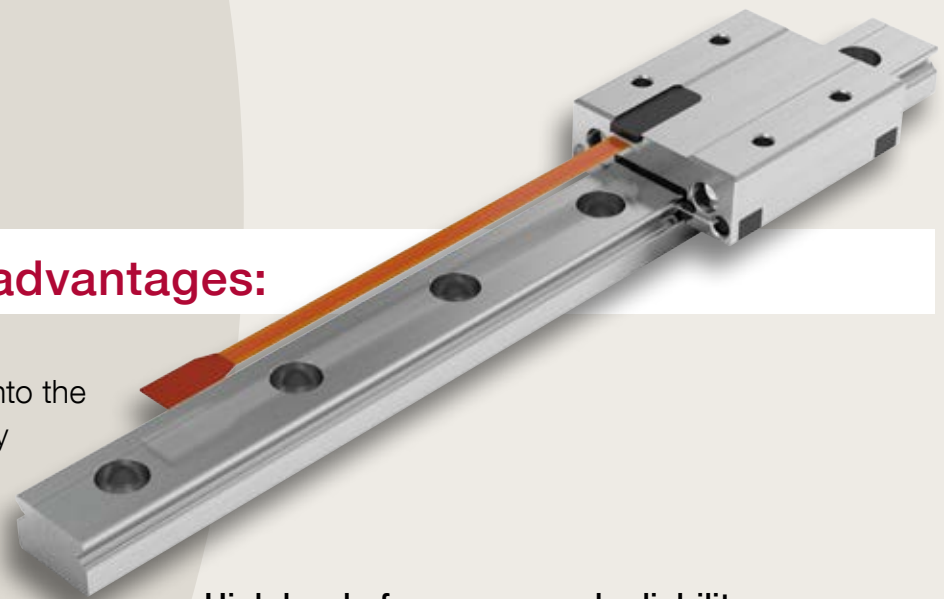
- No investment costs required for fitting a separate linear measuring system.

#### Simple and quick installation

- MINISCALE PLUS is delivered ready for installation.
- No need for additional components and adaptations (as would be required for a glass scale, for example).
- After the mechanical assembly no additional adjustments necessary.

#### High level of accuracy and reliability

- Measurements takes place directly at the carriage. This therefore significantly reduces the chance of Abbe errors.
- Immune to vibrations and shocks due to being a single unit.
- The measuring scale is part of the guide rail. This consequently reduces the analysis of the thermal aspect ratio and amount of compensation required for the controller.
- Measures the true position as feedback for motion control.



## SPECIFICATIONS

<b>Max. Speed</b>	analogue: 5 m/s digital: 3.2 m/s	
<b>Max. Acceleration</b>	300 m/s <sup>2</sup>	
<b>Resolution</b>	for TTL	0.1 µm
<b>Accuracy</b>	1000 mm per 40 mm	+/- 10 µm (+/- 5 on request) +/- 4 µm
<b>Repeat accuracy</b> <sup>(1)</sup>	unidirectional bidirectional	+/- 0.1 µm +/- 0.2 µm
<b>Dimensional scale</b>	Pitch Max. length Coefficient of expansion	100 µm 1000 mm 11.7 x 10 <sup>-6</sup> K <sup>-1</sup>
<b>Operating voltage</b>	5 V DC +/- 5 %	analogue: 60 mA digital: 70 mA
<b>Output signal</b>	analogue: 1V <sub>ss</sub> @100 Ω digital: According to standard RS 422	
<b>Source format</b>	<ul style="list-style-type: none"> <li>• Differential sin/cos analogue signals with reference pulse</li> <li>• Differential, interpolated digital signals with reference pulse</li> </ul> The reference signal is synchronised with the incremental signals	
<b>Operating temperature range</b>	-40 °C bis 85 °C	

<sup>(1)</sup> The values apply at 20 °C (68 °F) room temperature

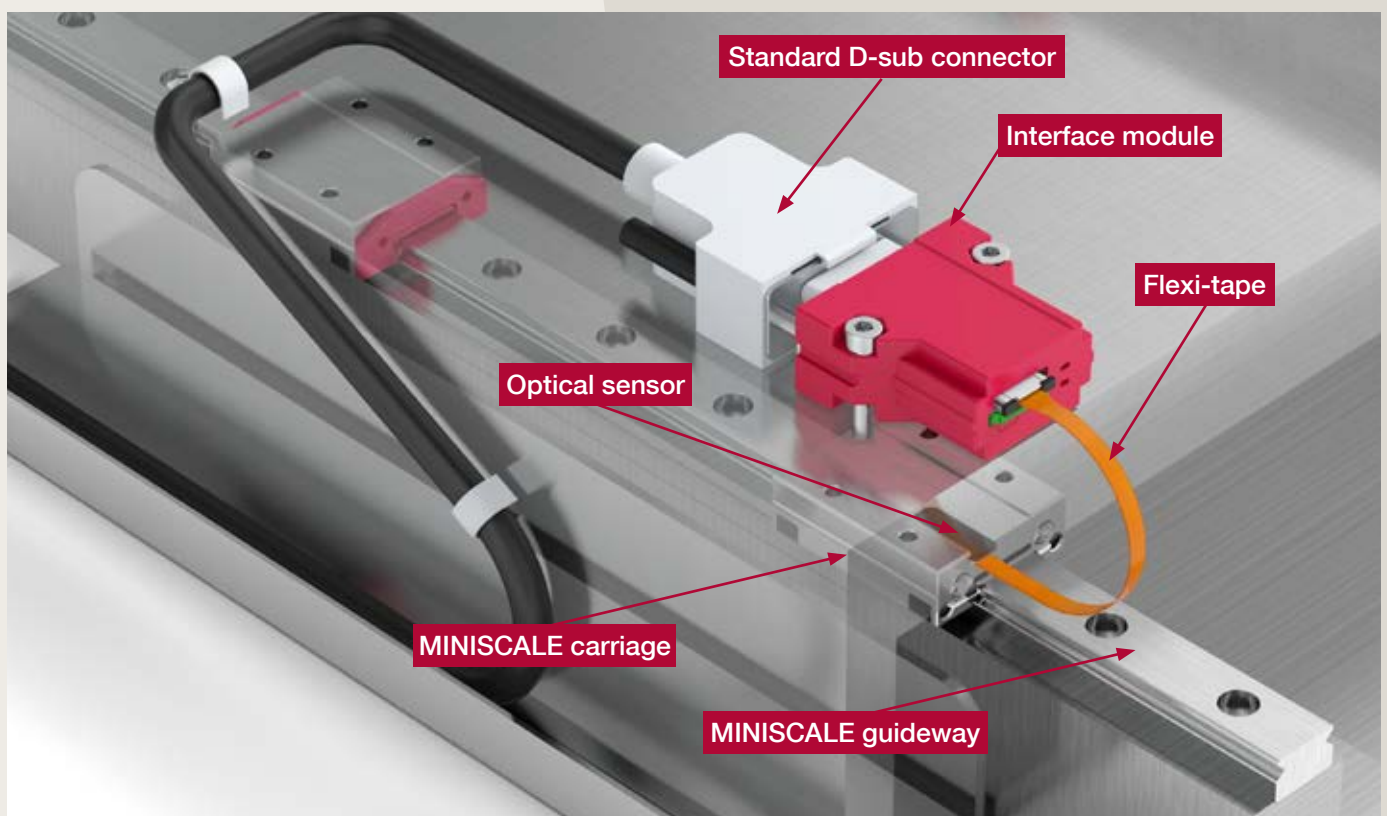


Fig.: MINISCALE PLUS in its installed state

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- MINI-X MINIRAIL / MINISCALE PLUS / MINISLIDE
- MONORAIL and AMS profiled linear guideways with integrated measuring system
- MONORAIL and AMS application catalog
- POSITIONING SYSTEMS
- SLIDES



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