SCHNEEBERGER



AMSABS 3L

Profiled linear guideways with absolute measuring system for long axes

Product catalog



Product description AMSABS 3L

With MONORAIL AMSABS 3L SCHNEEBERGER provides an integrated absolute distance measuring system especially for the design of long axes with high requests on system accuracy. Mechanically the AMSABS 3L is based on the SCHNEEBERGER roller guideway MONORAIL MR. The particular realization of the rail butt joints in combination with the AMSABS 3L reading head enables to run over joints an to build absolute coded measuring axes of any length. For the controller the absolute interfaces SSI, SSI+1Vpp and Fanuc are available with different cable lengths.

Various lubrication and sealing options for the measuring carriages enable optimum adaption to the requirements of the application. The simply changeable reading head is identic for all sizes.

Concept AMSABS 3L

For AMSABS 3L system rails are used with standardized lengths L3 and prepared for butt joining on both sides. For the realization of an intermediate length, one system rail is cut at the end of the axis and secured by an end piece. This enables deliveries from stock with uniform ordering processes. The rails can be put together to measuring distances of any length. The system lengths fit to RSR rails of the corresponding size. The following advantages apply:

- Extremely short delivery times for rails with integrated absolute measuring system.
- Low logistics costs for the realization of long machine axes.
- · Full exchangeability of all rail segments.
- Axes are extendable to any length with using system rails.

Additionally the proven technic of the AMSABS measuring systems apply:

- Reading head easily exchangeable from the side.
- Robust welded, fluid-tight housing of the sensor to IP67.
- Exchangeability of the reading head without adjudement.
- · One reading head for all sizes.

	A	AMSABS 3L W 35-A
Operating principle	0-	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• • • • • • • • • • • • • • • • • • • •
AMSA 3L S 35	AMSA 3L S 35	AMSABS 3L S 35 PO
RSR 35-30	RSR 35-30	RSR 35-30

The operating principle is built on the proven products AMS 3L and AMSABS 3B. A measuring carriage AMSABS 3L W with absolute measuring reading head runs over rail butt-joints without loosing the signal. The single rail segments have a standardized length L3 and are prepared for joints on both sides. This allows to arrange the rails one by one in any length and random sequence.

A marked rail segment carries an absolute coding (AMSABS 3L S). On this rail segment the measuring carriage is referenced just one time. With the proven technic of AMSABS 3B, the measuring carriage is now able to transmit the absolute position permanently and over the entire length of the measuring axis. Furthermore the absolute position of the measuring carriage is always available, also after switching-off and switching-on of the voltage supply.



The scan unit is installed in the measuring carriage. It consists of the reading head (1), the electronics box (2) and the plug or mounting base (3).

Technical data

Interface	SSI+1Vpp and Fanuc
Max. speed	3m/s
Max. acceleration	50 m/s²
Accuracy class	+-5μm 1000 mm (additionally+-7μm at the joint) +-2μm / 40mm
Working temperature	0°C to 70°C
Transportation temperature	-20°C to 70°C
Supply voltage	5V+-10% or 24V+-10%
Protection class	IP 67



Technische Daten und Optionen

	Manus	ALAS	Aces	ALLER			
	A standard	B standard, long	c compact, high	D compact, high, long			
Buildsizes / Carriage build forms							
Size 25	AMSABS 3L W 25-A	AMSABS 3L W 25-B	AMSABS 3L W 25-C	AMSABS 3L W 25-D			
Size 30	AMSABS 3L W 30-A	AMSABS 3L W 30-B	AMSABS 3L W 30-C	AMSABS 3L W 30-D			
Size 35	AMSABS 3L W 35-A	AMSABS 3L W 35-B	AMSABS 3L W 35-C	AMSABS 3L W 35-D			
Size 45	AMSABS 3L W 45-A	AMSABS 3L W 45-B	AMSABS 3L W 45-C	AMSABS 3L W 45-D			
Size 55	AMSABS 3L W 55-A	AMSABS 3L W 55-B	AMSABS 3L W 55-C	AMSABS 3L W 55-D			
Size 65	AMSABS 3L W 65-A	AMSABS 3L W 65-B	AMSABS 3L W 65-C	AMSABS 3L W 65-D			

Available options for AMSABS 3L Carriages

Accurac	curacy		Preload		ice side	Coating			
GO	Highly accurate	V 1	Low	R1	Ref. at bottom	CN	None		
<mark>G1</mark>	Very accurate	▲ V 2	Medium	R2	Ref. on top	CH	Hard chromium		
	Accurate	<mark>⊿∕ ∖⊾</mark> V3	High						
- <mark></mark>	Standard								
Lube co	onnections			Lubrica	tion	Interface	e		
<mark>S10</mark> ▶□	Left center	<mark>S13</mark>	Upper left side		Oil protect	TMU	TMH, absolute, 0.3m		
<mark>S20</mark> 🕞	Right center	<mark>S23</mark> 🔲	Upper right side	<u> </u>	Grease protect	- C TRH	TRH, absolute, 3m		
<mark>S11</mark> 🚺	Top left	<mark>S32</mark>	Left side		Full greasing	-CI TSH	TSH, absolute, 3m		
<mark>S21</mark> 📑	Top right	<mark>S42</mark> 🔲	Right side						
<mark>S12</mark>	Lower left side	S49	P1:S10+S12+S13						
<mark>S22</mark>	Lower right side	<mark>S49</mark>	locked using threaded pins P3:S2O+S22+S23						
Reading	g head position		tookoa daing ti indudea pina						
·· ···· P1	Right top								

Left bottom

Available accessories for AMSABS 3L Carriages

Additional wipers	Assembly rails Lube adapters	Lubrication plates	Metal wiper
	N standard		
Buildsizes / Rails build forms			
Size 25	AMSABS 3L S 25-N		
Size 30	AMSABS 3L S 30-N		
Size 35	AMSABS 3L S 35-N		
Size 45	AMSABS 3L S 45-N		
Size 55	AMSABS 3L S 55-N		
Size 65	AMSABS 3L S 65-N		
Available options for AMSA	ABS 3L Rails		
Accuracy St	raightness Coating	Locating s	sides
🔁 🖬 Very accurate 🍃	<mark>∽кс</mark> Standard <mark>см</mark> No	one R11 Re	ef.bottom, scale bottom
		R22 R	ef.bottom, scale top

Available accessories for AMSABS 3L Rails

Technical data and options



▼ =Locating side





2x AMSA 3L S 35-N-G1-KC-R22-3000-CN-TR40 1x AMSABS 3L S 35-N-G1-KC-R22-3000-CN-P0 1x AMSABS 3L W 35-A-P1-G1-V3-R2-CN-S49-LN-TMH-TS3 3x RSR 35-30

- The system needs an AMSABS 3L S-PO rail for referencing. This can be placed on any position within the rail line, where reachable by the measuring carriage AMSABS 3L W.
- The further rails of the masuring axis are AMSA 3L rails. The opposite ones RSR.
- All rails have the same system length.
- All rails are prepared for butt joint on both sides.

			AMSABS 3L 35-PO			
AMSA 3L 35	MISA 3L 35	AMSA 3L 35		AMSA 3L 35	AMSA 3L 35	AMSA 3L 35

Configuarion sheet for above example

Field of application

- Aviation industry
- Heavy cutting
- Wood- and paper industry
- Assembly and handling technology
- · Large laser welding machines, laser cutting and water jet cutting machines
- Huge testing machines
- Huge machines in foundry technology

Order Code AMSABS 3L rails

	1x	AMSABS 3L S	35	-N	-G1	-KC	-R11	-3000	-CN	-PO
Quantity										
Rail										
Size										
Туре										
Accuracy										
Straightness										
Reference side										
Rail length										
Coating										
Coding (PO is standard for a reference rail)										

Comments

For rail length L3 the nominal length 3000 mm applies (2940 mm for MR 45), real length: MR 25: 2999,5 mm MR 35: 2999,5 mm MR 45: 2939,5 mm > **Note, rail length shortened due to signal period (also AMSA 3L!)** MR 55: 2999,5 mm MR 65: 2999,5 mm

Order code AMSABS 3L carriage

	1x	AMSABS 3L W	35	-В	-P1	-G1	-V3	-R2	-CN	-S49	-LN	-TSH	-TS3
Quantity													
Carriage													
Size													
Туре													
Reading head position	·												
Accuracy													
Preload													
Reference side													
Coating													
Lube connection													
Lubrication as delivered condition									-				
Interface													
Configuration													

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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



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