



AMSABS 3L

Profiled linear guideways with absolute measuring system for long axes



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 and 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 identical for all sizes.

Concept AMSABS 3L

For AMSABS 3L system rails are used with a 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:

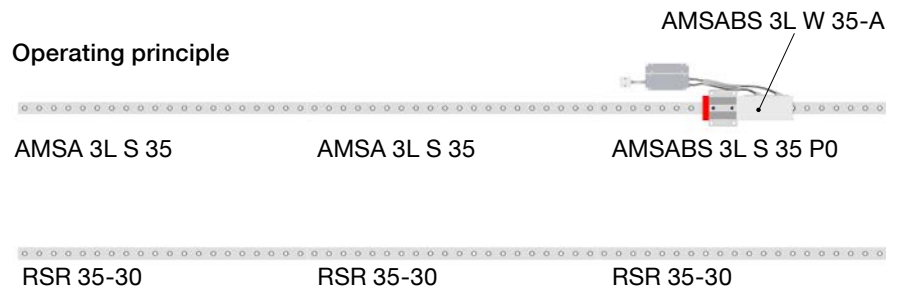
- Extremely short delivery times for rails with integrated absolute measuring system.
- Low logistics costs for the realization of long machine axes.
- Full exchangeability of all rail segments.
- Axes are extendable to any length with using system rails.

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.

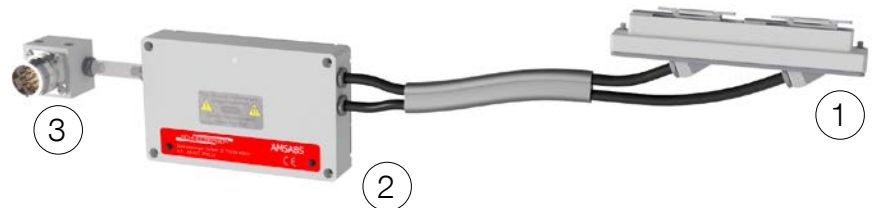
Operating principle and technical data

Operating principle



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 losing 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+1Vss and Fanuc
Max. speed	3m/s
Max. acceleration	50 m/s ²
Accuracy class	+/- 5 µ 1000 mm (additionally +/- 7 µm at the joint) +/- 2 µm / 40mm
Working temperature	0° C bis 70° C
Transportation temperature	-20° C bis 70° C
Supply voltage	5V +/- 10% oder 25V +/- 10%
Protection class	IP 67





Technical data and options

Product overview AMSABS 3L measuring carriage




	A	B	C	D
Größe 25	AMSABS 3L W 25-A	AMSABS 3L W 25-B	AMSABS 3L W 25-C	AMSABS 3L W 25-D
Größe 35	AMSABS 3L W 35-A	AMSABS 3L W 35-B	AMSABS 3L W 35-C	AMSABS 3L W 35-D
Größe 45	AMSABS 3L W 45-A	AMSABS 3L W 45-B	AMSABS 3L W 45-C	AMSABS 3L W 45-D
Größe 55	AMSABS 3L W 55-A	AMSABS 3L W 55-B	AMSABS 3L W 55-C	AMSABS 3L W 55-D
Größe 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 measuring carriage



Accuracy

-  G0 Highly accurate
-  G1 Very accurate
-  G2 Accurate
-  G3 Standard

Preload

-  V1 Low
-  V2 Medium
-  V3 High

Reference side

-  R1 Ref. at bottom
-  R2 Ref. on top






Coating

-  CN None






Reading head position

-  P1 Right top
-  P3 Left bottom




Lube connections for P1

-  S10 Left center
-  S11 Top left
-  S12 Lower left side
-  S13 Upper left side
-  S49 S10+S12+S13 locked using threads pins

Lube connections for P3

-  S20 Right center
-  S21 Top right
-  S22 Lower right side
-  S23 Upper right side
-  S49 S20+S22+S23 locked using threads pins

Lubrication

-  LN Oil protect
-  LG Grease protect
-  LV Full greasing

Interface

- TMH
- TRH
- TSH

Product overview AMSABS 3L rails

	N standard
Größe 25	AMSABS 3L S 25-N
Größe 35	AMSABS 3L S 35-N
Größe 45	AMSABS 3L S 45-N
Größe 55	AMSABS 3L S 55-N
Größe 65	AMSABS 3L S 65-N

Available options for AMSABS 3L rails

Accuracy

-  G1 Very accurate



Straightness

-  KC Standard

Coating

-  CN None

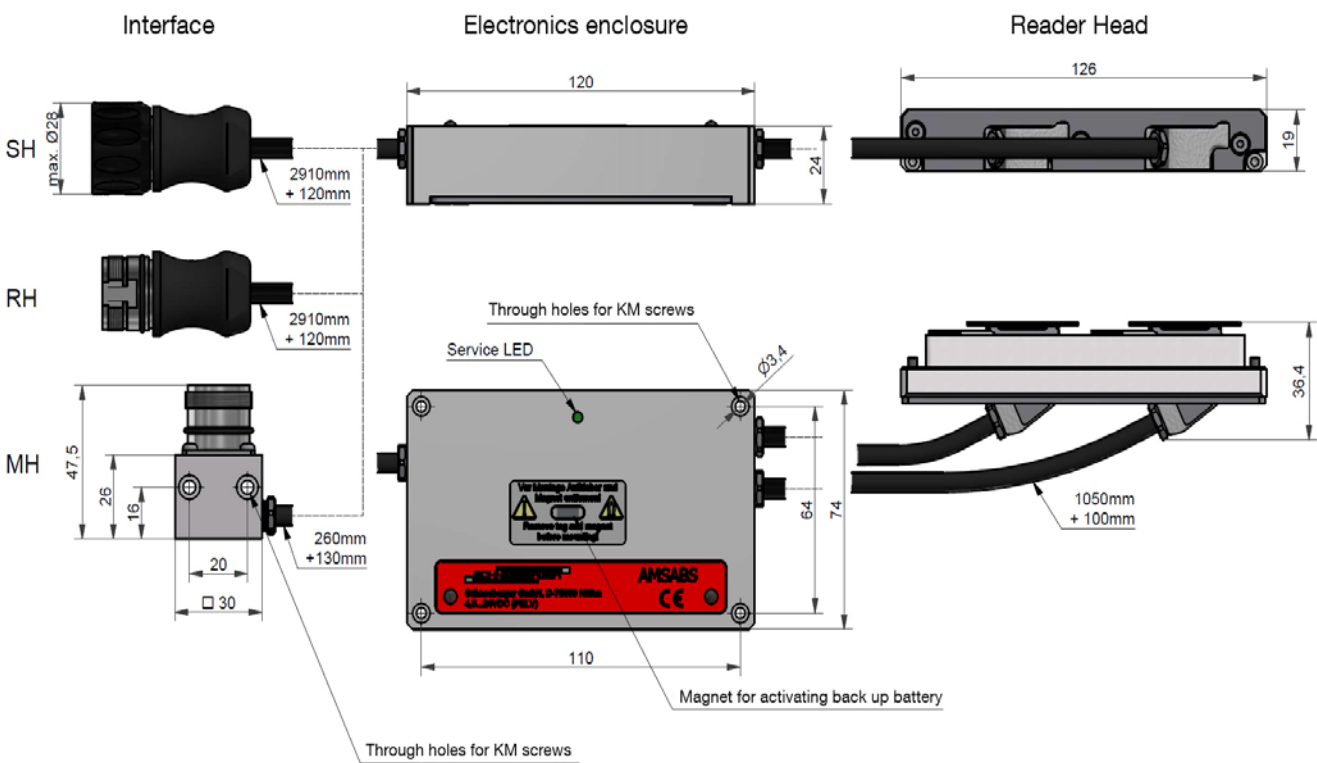
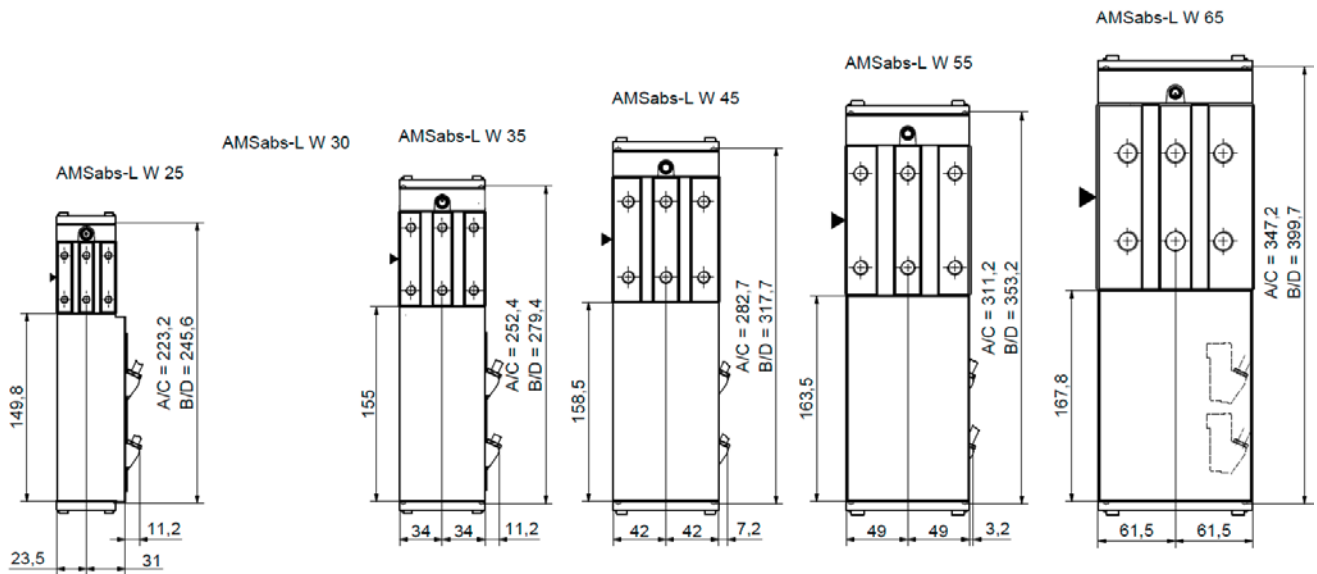
Locating side

-  R11 Ref. bottom, scale bottom
-  R22 Ref. top, scale top

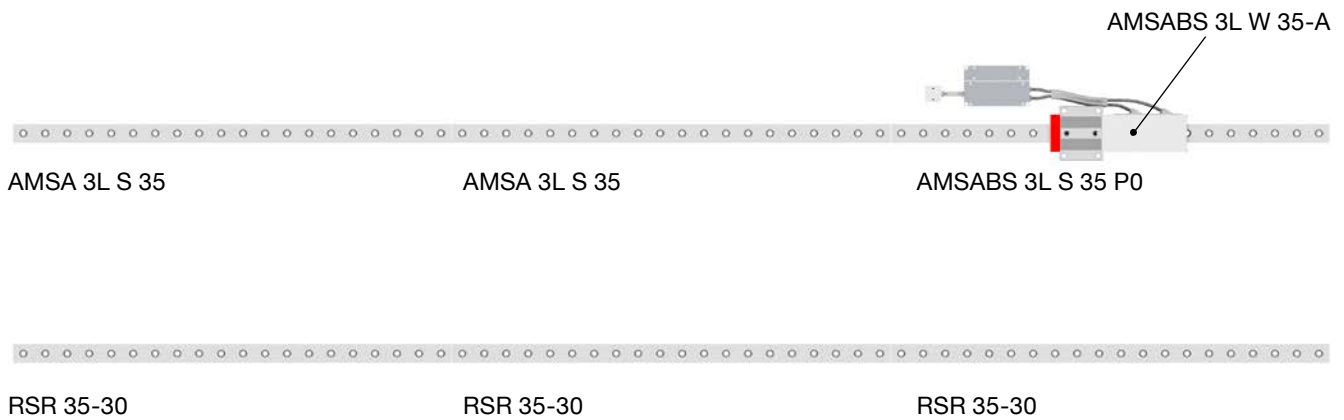
Available accessories for AMSABS 3L rails

Plugs Assembly tools End pieces for AMS

Technical data and options



Technical data and options



Configuration of an exemplary axis for size MR 35:

- 2x AMSA 3L S 35-N-G1-KC-R11-3000-CN-TR40
- 1x AMSABS 3L S 35-N-G1-KC-R11-3000-CN-P0
- 1x AMSABS 3L W 35-A-P1-G1-V3-R2-CN-S49-LN-TSH-TS3
- 3x RSR 35-30

- The system needs an AMSABS 3L S-P0 rail for referencing. This can be placed on any position within the rail line, where reachable by the measuring carriage AMSABS L W.
- The further rails of the measuring 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.

Configuration sheet for above example::

<input type="checkbox"/> AMSABS 3L 35-M3	<input type="checkbox"/> AMSABS 3L 35-M2	<input type="checkbox"/> AMSABS 3L 35-M1	<input checked="" type="checkbox"/> AMSABS 3L 35-P0	<input type="checkbox"/> AMSABS 3L 35-P1	<input type="checkbox"/> AMSABS 3L 35-P2	<input type="checkbox"/> AMSABS 3L 35-P3
<input type="checkbox"/> AMSA 3L 35	<input checked="" type="checkbox"/> AMSA 3L 35	<input checked="" type="checkbox"/> AMSA 3L 35		<input type="checkbox"/> AMSA 3L 35	<input type="checkbox"/> AMSA 3L 35	<input type="checkbox"/> AMSA 3L 35

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

Order Code AMSABS 3L rails

	1x	AMSABS 3L S	35	-N	-G1	-KC	-R11	-3000	-CN	-P0
Quantity										
Rail										
Size										
Type										
Accuracy										
Straightness										
Reference page										
Rail length										
Coating										
Coding (P0 ist 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

Deliveries from Q1/2021

Order code AMSABS 3L carriage

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