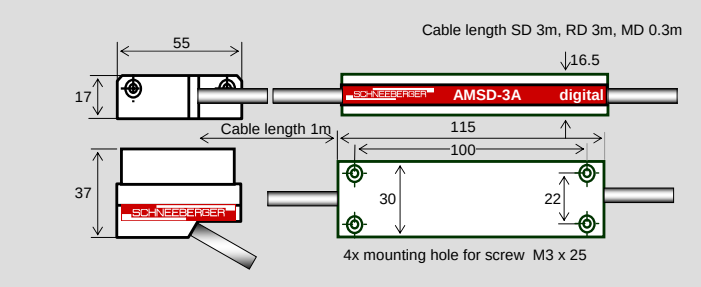
Dimensions of Read Head



Ordering Information

System		1 AMSD-3A	- 25	-948	-C	-SD	-010-80
Number							
Type	AMSD-3A						
Size	25, 35, 45, 55, 65						
Length in mm	(magnetized scale length)						
Reference mark	S	Reference marks every 50mm					
	C	Distance coded					
	K	Customer specific (drawing is necessary)					
Cable interface	MD	0,3m cable with mounting base and flange socket					
	SD	3m cable with male connector with flange ring					
	RD	3m cable with male connector with external thread					
	OO	System is to be supplied without read head					
Resolution	010-80	5µm, interpolation rate 10, max. output frequency 8MHz					
	050-80	1µm, interpolation rate 50, max. output frequency 8MHz					
	250-80	0.2µm, interpolation rate 250, max. output frequency 8MHz					

Read Head		SMD-3A	-SD	-010-80
Type	SMD-3A			
Cable interface	MD	0.3m cable with mounting base and flange socket		
	SD	3m cable with male connector with flange ring		
	RD	3m cable with male connector with external thread		
Resolution	010-80	5µm, interpolation rate 10, max. output frequency 8MHz		
	050-80	1µm, interpolation rate 50, max. output frequency 8MHz		
	250-80	0.2µm, interpolation rate 250, max. output frequency 8MHz		

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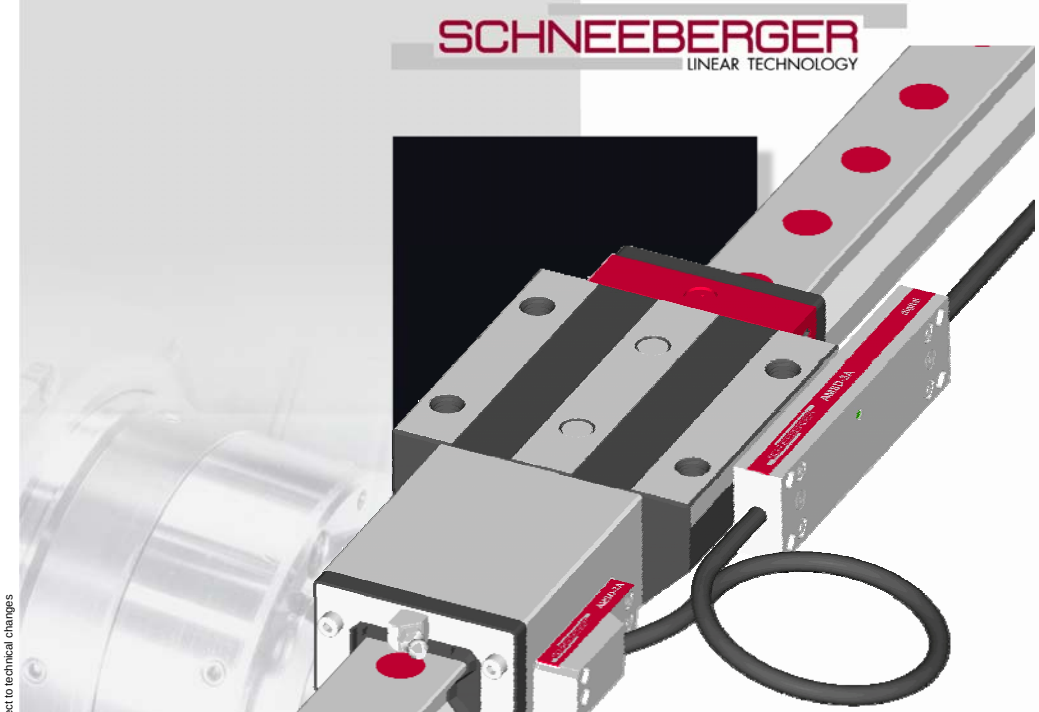
SCHNEEBERGER
LINEAR TECHNOLOGY



MONORAIL AMSD-3A

Integrated Linear Distance Measuring System

A complete package providing high precision and reliability, with significant design advantages.

AMSD-3A from Schneeberger

With AMSD-3A the proven magnetoresistive measuring technology for Roller Monorail is now available with digital interface RS422.

- Digital signals direct from the read head without additional interpolation electronics.
- Different resolutions from 0.2µm to 5µm available.
- Maximum output frequency and hysteresis selectable to customers demand.
- Special reference pulse for Fanuc controls.
- A service LED indicates different modes of operation.
- One read head for all sizes from MR25 - MR65.
- Operation without central lubrication by use of the Schneeberger self lubrication plate.
- Lengths up to 6000mm available.

The used sensors, magnetization and electronics are based on the product AMSA-3A.
The magnetic scale is identical for analog and digital systems. All dimensions are also the same like AMSA-3A.

Reduced complexity and minimized process costs

With the MONORAIL AMSD-3A Schneeberger provides you a complete integrated solution with unique advantages in ...

Accuracy

- Measuring close to the working process
- Perfect alignment of the measuring system with MONORAIL precision
- Good thermal coupling to the machine base
- The expansion coefficient is the same like steel.

Installation and set-up

- Delivered complete to the customers specification and ready for installation
- Service LED indicates proper installation and function of the system
- No alignment required

Construction

- Space-saving system
- Short construction time, no special fitting is necessary

Service and maintenance

- Service LED indicates malfunctions of the system
- The system is sealed against dust and liquids
- Resistant to oils, greases and coolants

Technical data

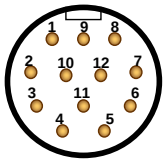
System characteristics	
Scale	hardmagnetic, periodic N-S division
Reference marks	every 50mm, distance coded or customer specific
Maximum length	6000mm
Accuracy	
Accuracy class	+/- 5µm / 1000mm, +/- 2µm / 40mm
Periodic deviation	+/- 1µm
Resolution	0.2µm, 1µm, 5µm (other values upon request)
Hysteresis	< 0.5µm or digitally selectable
Movement	
Max. speed	3m/s, 1m/s with 0.2µm resolution
Max. acceleration	30g
Environment	
Protection class	IP 67
Operating temperature	0° - +70°C
Storage temperature	-20° - +70°C
Vibration / Shock	30g
Interface	
Digital	A quad B signals RS422 with reference and error signal, reference pulse width 90° or 500µs (for FANUC-CNC)
Supply voltage	5V +/- 10%
Current demand	typ. 110mA per read head (no load on outputs)

Service-LED

The LED indicates different modes of operation:

green continuos	System works in specifications.
green blinking	Signal too high, system works with reduced accuracy, error signal -Uas active (low).
green-red blinking	Signal too low, system works with reduced accuracy, error signal -Uas active (low).
green-red flashing	No input signal, no output, error signal -Uas active (low).
red blinking	Too high travelling speed, error signal -Uas active (low).
red flashing	Supply voltage out of range (<4.5V or >5.5V), error signal -Uas active (low).
red continuos	Hardware defect, no output, error signal -Uas active (low).

Pin connection Drawing shows -MD, 12-pole male plug



1	-Ua2	A quad B signal
2	+5V sense	Supply voltage feed back
3	+Ua0	Reference signal synchronized to Ua1/Ua2
4	-Ua0	Reference signal synchronized to Ua1/Ua2
5	+Ua1	A quad B signal
6	-Ua1	A quad B signal
7	-Uas	Error signal active low, minimal duration 20msec
8	+Ua2	A quad B signal
9	-	NC
10	0V GND	Supply voltage
11	0V sense	Supply voltage feed back
12	+5V	Supply voltage

For restricted time short circuit to 0V is permissible for all signals.

Dimensions

MR size	Lw MRA/MRC	Lw MRB/MRD	LS	L9 MRA/MRC	L9 MRB/MRD	L10	A1	A2	A3
25	57	79.4	12	144.2	166.6	75.2	23.5	31	14.5
35	76	103	16.5	172.5	199.5	79.7	34	34	14.5
45	100	135	18.8	200.8	235.8	81.9	42	42	10.5
55	120	162	21.8	226.8	268.8	84.9	49	49	6.5
65	-	201	25	-	315	89	61.5	61.5	0