



***RSF Elektronik***

[www.rsf.at](http://www.rsf.at)

**PRODUCT DIRECTORY**

**MEASUREMENT DEVICES | CABLE SYSTEMS**



## INCREMENTAL LINEAR MEASURING DEVICES AND PRECISION GRADUATIONS

RSF Elektronik is one of the world's leading companies in the field of electronic linear measuring devices and it offers an extensive portfolio which includes almost all designs which are required by the market. The typical resolutions or measuring steps range from a few micrometres down to the nanometre range.



RSF Elektronik, corporate head quarters Tarsdorf,  
Austria



RSF Elektronik, manufacturing subsidiary Střibro,  
Czech Republic

Another core element of the product range are high-precision and resistant graduations which are manufactured in thin-layer technology on glass or other carrier substrates. RSF Elektronik also develops customized cable devices for the widest range of sectors and areas of application, and these are manufactured by the Střibro subsidiary. In order to safeguard the company's high quality standard, a comprehensive quality assurance and environmental management system – certified according to DIN EN ISO 9001 and DIN EN ISO 14001 – has been put in place. Thanks to the company's extensive distribution network, optimum customer service is guaranteed in practically all regions.

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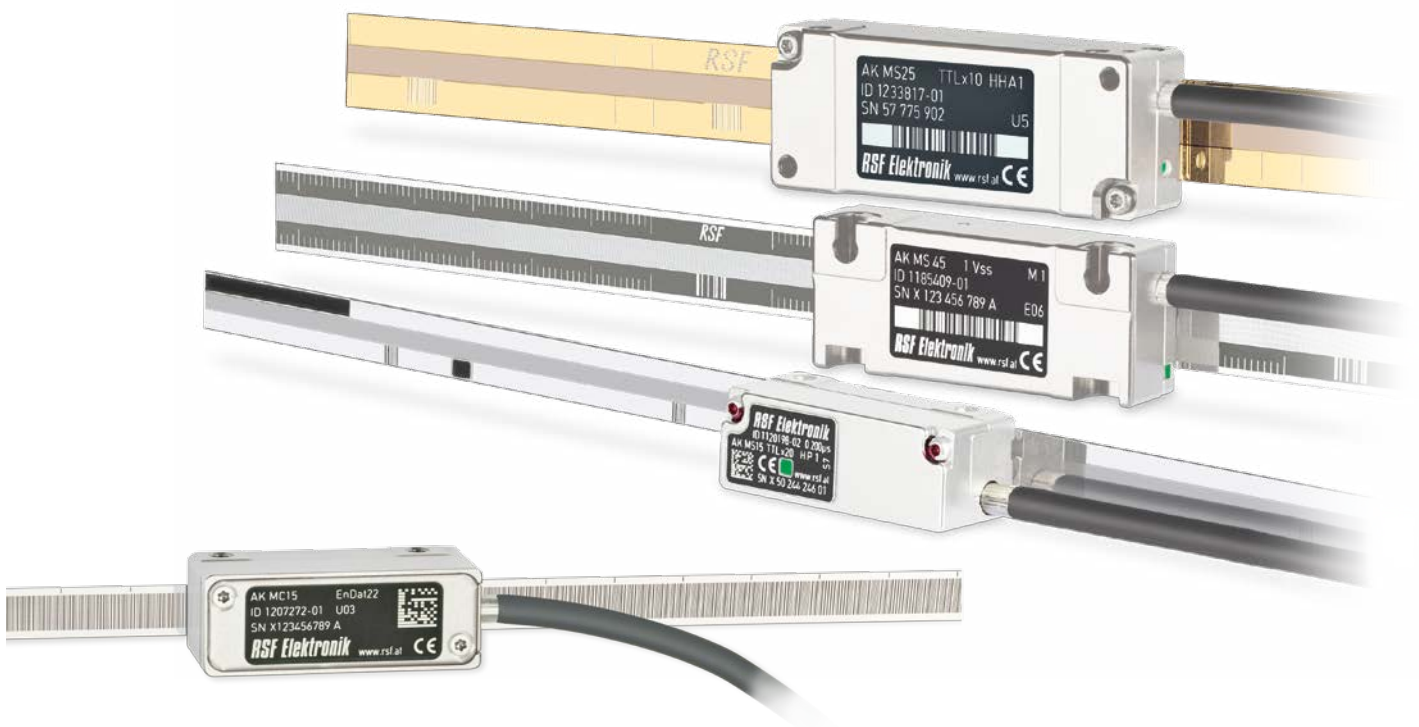


## EXPOSED LINEAR ENCODERS

### FIELDS OF APPLICATION

Escalating market demand in terms of processing speed, operating cycles and mechanical backlash, together with the requirement that there should be no mechanical influences necessitates the provision of high-precision exposed linear measurement systems. The scale and scanning head must be protected against soiling in this construction style. Exposed linear encoders are optimized for use in a „clean environment“ (e. g. measuring machines, machines in electronic manufacture).

Due to increasing demand for absolute position valuation RSF Elektronik offers the MC 15, an absolute exposed linear encoder.



### PERFORMANCE CHARACTERISTICS

- Non-contact optical scanning, no mechanical influence on the measurement slide
- High measuring speed
- High precision, small measuring increments
- Reproducible thermal performance
- Minimal space requirement

#### MC 15

- Absolute position valuation
- Large mounting tolerances
- Several serial interfaces

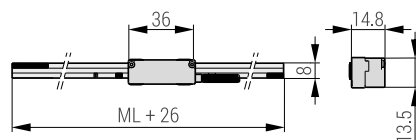
### TYPICAL APPLICATIONS

- Metrology: Coordinate measuring machines, measuring microscopes, presetting devices, video inspection
- Electronic manufacturing: Circuit board assembly/inspection/testing, screen-printing systems, LCD production
- Semi-conductor production: Bonders
- Linear drives
- 2D, 3D printers
- Medical technology
- Solar technology
- Mounting machines
- Automation

## VERSIONS INCREMENTAL

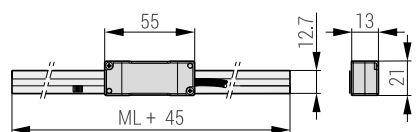
### MS 15

- Grating pitch: 40  $\mu\text{m}$
- Gratuation carrier: Steel tape



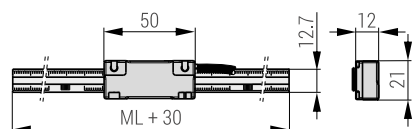
### MS 25

- Grating pitch: 40  $\mu\text{m}$
- Gratuation carrier: Steel tape, glass, glass ceramic



### MS 45

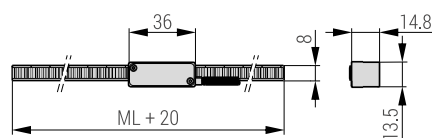
- Grating pitch: 200  $\mu\text{m}$
- Gratuation carrier: Steel tape



## VERSION ABSOLUTE

### MC 15

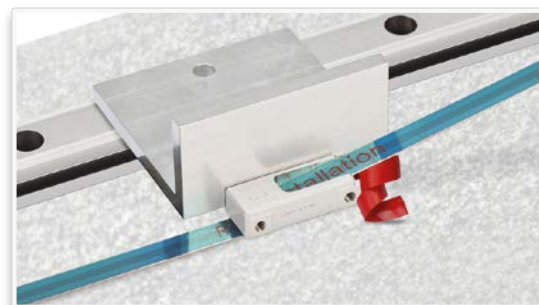
- System resolution: 50 nm, 100 nm
- Gratuation carrier: Steel tape
- Interfaces: EnDat 2.2,  
Mitsubishi (M),  
Panasonic (P)



## ACCESSORIES FOR STEEL TAPE SCALE (OPTIONAL): TAPE MOUNTING TOOL TMT 14 MK, TMT 20 MK, TMT 40 MK

For secure and precise application of a steel tape scale  
at linear encoder systems:

MS 15 MK, MS 25 MK, MS 45 MK, MC 15 MK



## SEALED LINEAR ENCODERS

### FIELDS OF APPLICATION

Linear encoders from RSF Elektronik are all-purpose. They are suited for manual applications; yet they are also particularly suitable for closed loop drive devices. Owing to their sealed design, the MSA 7 and MSA 8 linear encoders are predestined for applications in automation and production technology. They are ideally suited for metrology, printing and robotics, especially in applications where protection for the scale and the reading head is required.



### PERFORMANCE CHARACTERISTICS

- Compact measuring unit with optical scanning
- Scale and reading head are protected by aluminum housing and sealing lips from soiling
- Simple assembly
- Patented coupling system between scanning carriage and reading head allows greater assembly tolerances - without compromising precision
- Reproducible thermal performance
- Detachable connecting cable (optional)

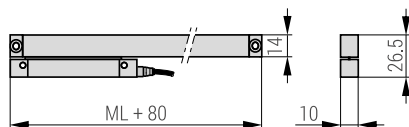
### TYPICAL APPLICATIONS

- Automation and production technology
- 2D, 3D printers
- Robotics
- Electronics manufacturing:  
Circuit board drilling and milling, screen-printing systems
- Metrology: Microscopes, measuring stages
- Presetting devices
- Linear units and drives

## VERSIONS

### MSA 170

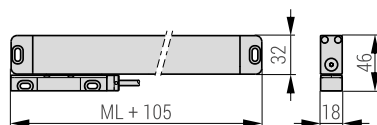
- Miniaturized system
- Measuring length: Up to 520 mm



### MSA 7XX

### MSA 8XX

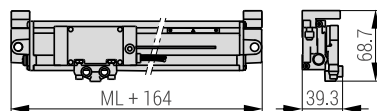
- Small cross-sectional profile
- Measuring length: Up to 3040 mm
- Various mechanical versions
- Detachable connecting cable (MSA 8xx)



### MSA 37X

### (MSA 373, MSA 374, MSA 375 VERSIONS)

- With integrated guide rail system
- Measuring length: Up to 1240 mm



## MODULAR ANGLE MEASUREMENT ENCODERS

### FIELDS OF APPLICATION

Position and rotator control for electrical drives, metrology

### VERSIONS

MSR 25 / MSR 45



### PERFORMANCE CHARACTERISTICS

- For small and very large diameters as well
- Full-circle solution
- Segment solution
- External tape scale

### TYPICAL APPLICATIONS

- Large rotary tables
- Telescopes
- Computer tomography
- Drive technology

## INTERFACE ELECTRONICS

### FIELDS OF APPLICATION

Counter board for the measurement acquisition of incremental linear measurement

### VERSIONS

UFC 430 USB-INTERFACE MODULE

IFC 430 PC PLUG-IN CARD



### PERFORMANCE CHARACTERISTICS

- PC plug-in card for three axes
- USB-interface module for three axes

### TYPICAL APPLICATIONS

- Measuring microscopes
- Measuring machines
- Presetting devices



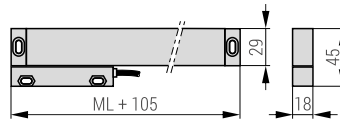
# LINEAR ENCODERS FOR RETROFITTING MANUALLY OPERATED MACHINE TOOLS

## FIELDS OF APPLICATION

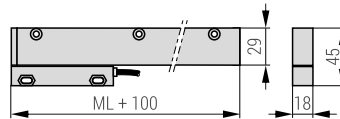
Equipment for manual machine tools

## VERSIONS SMALL CROSS-SECTIONAL PROFILE

### MSA 650

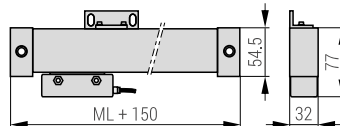


### MSA 651



## VERSION LARGE CROSS-SECTIONAL PROFILE

### MSA 350



## PERFORMANCE CHARACTERISTICS

- Very simple assembly
- Robust housing
- Various mechanical versions

## TYPICAL APPLICATIONS

- Milling machines
- Turning machines
- Grinding machines

## CABLE SYSTEMS

### FIELDS OF APPLICATION

In its cable systems division, RSF Elektronik develops and produces customized products and optimized solutions for the widest range of sectors and areas of application.

- Electronics
- Energy technology
- Medical technology
- Semi-conductor manufacture
- Regenerative energy



### PRODUCTION TECHNOLOGY

All cables and cable systems are produced using the latest production techniques, fully automatic cutting machines, automatic crimp force monitoring and comprehensive final inspection all ensure maximum flexibility and quality.

#### Crimp technology

- Automatic crimp force monitoring
- Preparation of crimp micrographs for every order (at the beginning and at the end of every process, failures)
- Trigger controls for every order and contact
- Reliable crimping processing for cable cross-section from 0.032 mm<sup>2</sup> to 35 mm<sup>2</sup>



#### Quality assurance

- Incoming goods inspection
- In-process inspections
- Inspection modules for all contacts and plugs
- 100% performance testing and electrical inspection
- Regular audits



#### Extrusion coating

- For plugs, cables, circuit boards and cable ducts
- For the protection and sealing of sensitive components



#### System development

- Cable systems with electrical and mechanical components
- Use of devices to simulate actual applications



### COMPETENCES

- Fully automatic cutting machines
- The latest crimping machines and fine-soldering work stations
- Tools and devices for all contacts and plugs
- Extrusion coating of components and cables
- Small- and large-scale production
- Manufacture of prototypes and initial samples
- 100% performance testing

### TYPICAL APPLICATIONS

- Data lines
- Hybrid cables
- Cable drag
- Power cables
- System solutions

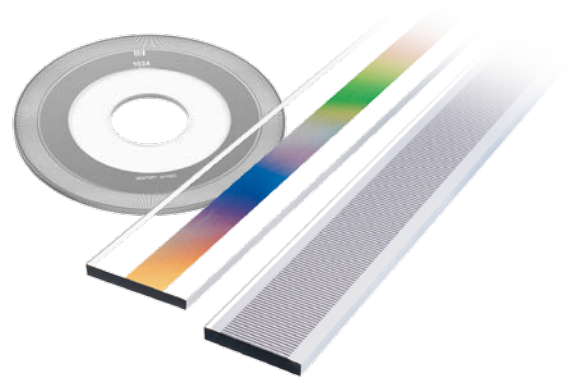
### SERVICES

- Advanced development and technology selection
- Production development
- Project planning and project management
- Prototyping

## PRECISION GRADUATIONS

### FIELDS OF APPLICATION

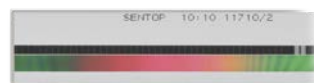
The use of measuring standards, principally in the form of linear grids, is an essential component of RSF Elektronik precision graduations. These precision graduations satisfy the highest quality requirements and define both the function and the precision of the measuring device.



### VERSIONS

A further focus is on the production of customer-specific RSF Elektronik graduations for particular requirements.

#### Standard rods



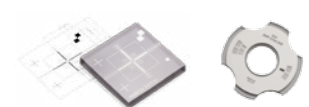
#### Customer-specific design



#### Special graduations to meet customer specifications



#### Special version graticule



### PERFORMANCE CHARACTERISTICS

- Longitudinal graduations in chrome on glass
- Longitudinal graduations on a steel tape
- Reflective medium gold or polished steel surface
- Circular graduations in chrome on glass
- Graticules
- Antireflection coating
- Other coatings

### TYPICAL APPLICATIONS

- Linear measurement devices
- Angle measurement devices
- Optical measuring and monitoring devices
- Aiming devices

## DISTRIBUTION CONTACTS

AUSTRIA <i>Corporate Head Quarters</i>	RSF Elektronik Ges.m.b.H.	A-5121 Tarsdorf 93	☎ +43 62 78 81 92-0 FAX +43 62 78 81 92-79	e-mail: info@rsf.at internet: www.rsf.at
BELGIUM	HEIDENHAIN NV/SA	Pamelse Klei 47 1760 Roosdaal	☎ +32 (54) 34 3158 FAX +32 (54) 34 3173	e-mail: sales@heidenhain.be internet: www.heidenhain.be
FRANCE	HEIDENHAIN FRANCE sarl	2 Avenue de la Christallerie 92310 Sèvres	☎ +33 1 41 14 30 00 FAX +33 1 41 14 30 30	e-mail: info@heidenhain.fr internet: www.heidenhain.fr
GREAT BRITAIN	HEIDENHAIN (GB) Ltd.	200 London Road Burgess Hill West Sussex RH15 9RD	☎ +44 1444 247711 FAX +44 1444 870024	e-mail: sales@heidenhain.co.uk internet: www.heidenhain.co.uk
ITALY	HEIDENHAIN ITALIANA S.r.l.	Via Asiago, 14 20128 Milan	☎ +39 02 27075-1 FAX +39 02 27075-210	e-mail: info@heidenhain.it internet: www.heidenhain.it
NETHERLANDS	HEIDENHAIN NEDERLAND B.V.	Copernicuslaan 34 6716 BM EDE	☎ +31 318-581800 FAX +31 318-581870	e-mail: verkoop@heidenhain.nl internet: www.heidenhain.nl
SPAIN	FARRESA ELECTRONICA S.A	Les Corts 36-38 08028 Barcelona	☎ +34 93 4 092 491 FAX +34 93 3 395 117	e-mail: farresa@farresa.es internet: www.farresa.es
SWEDEN	HEIDENHAIN Scandinavia AB	Storsåtragränd 5 SE-12739 Skärholmen	☎ +46 8 531 933 50 FAX +46 8 531 933 77	e-mail: sales@heidenhain.se internet: www.heidenhain.se
SWITZERLAND	HEIDENHAIN (SCHWEIZ) AG	Vieristrasse 14 8603 Schwerzenbach	☎ +41 44 806 27 27 FAX +41 44 806 27 28	e-mail: verkauf@heidenhain.ch internet: www.heidenhain.ch
CHINA	DR. JOHANNES HEIDENHAIN (CHINA) Co., Ltd	Tian Wei San Jie, Area A, Beijing Tianzhu Airport Industrial Zone Shunyi District, Beijing 101312	☎ +86 10 80 42-0000	e-mail: sales@heidenhain.com.cn internet: www.heidenhain.com.cn
HONG KONG SAR	HEIDENHAIN LIMITED	Unit 2007-2010 Apec Plaza 49 Hoi Yuen Road, Kwun Tong Kowloon, Hong Kong	☎ +852 27 59 19 20 FAX +852 27 59 19 61	e-mail: service@heidenhain.com.hk
ISRAEL	MEDITAL Hi-Tech	7 Leshem Str. 47170 Petach Tikva	☎ +972 0 3 923 33 23 FAX +972 0 3 923 16 66	e-mail: avi@medital.co.il internet: www.medital.co.il
JAPAN	HEIDENHAIN K.K.	Hulic Kojimachi Bldg., 9F 3-2 Kojimachi, Chiyoda-ku Tokyo, 102-0083	☎ +81 3 3234 7781 FAX +81 3 3262 2539	e-mail: sales@heidenhain.co.jp internet: www.heidenhain.co.jp
KOREA	HEIDENHAIN LTD.	202 Namsung Plaza, 9th Ace Techno Tower, 130, Digital-Ro, Geumcheon-Gu, Seoul, Korea 153-782	☎ +82 2 20 28 74 30	e-mail: info@heidenhain.co.kr internet: www.rsf.co.kr
RUSSIA	OOO «HEIDENHAIN»	ul. Goncharnaya, d. 21 115172 Moscow	☎ +7 (495) 777 34 66 FAX +7 (499) 702 33 31	e-mail: info@heidenhain.ru internet: www.heidenhain.ru
SINGAPORE	HEIDENHAIN PACIFIC PTE LTD.	51, Ubi Crescent 408593 Singapore	☎ +65 67 49 32 38 FAX +65 67 49 39 22	e-mail: info@heidenhain.com.sg internet: www.heidenhain.com.sg
TAIWAN	HEIDENHAIN CO., LTD.	No. 29, 33rd Road; Taichung Industrial Park Taichung 40768	☎ +886 4 2358 89 77 FAX +886 4 2358 89 78	e-mail: info@heidenhain.tw internet: www.heidenhain.com.tw
USA	HEIDENHAIN CORPORATION	333 East State Parkway Schaumburg, IL 60173-5337	☎ +1 847 490 11 91	e-mail: info@heidenhain.com internet: www.rsf.net

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# RSF Elektronik

Ges.m.b.H.

Linear Encoders  
Cable Systems  
Precision Graduations  
Digital Readouts

Certified acc. to  
DIN EN ISO 9001  
DIN EN ISO 14001

