

# MAGNESCALE

digital gauge



## Series DK800S

Key-Features:

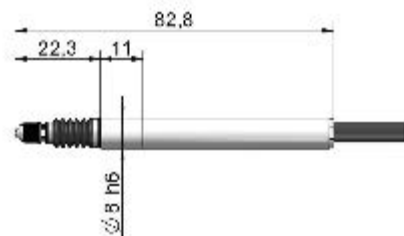
- Available measurement ranges: 5, 12 and 30 mm
- Resolution up to 0.1  $\mu\text{m}$
- Linearity up to  $\pm 1 \mu\text{m}$
- Output signal A/ B/ reference point, TTL- Linedriver according to EIA-422
- Integrated reference point
- Displacement speed up to 250 m/min
- Working temperature 0...+50 °C
- Protection class up to IP67
- Pneumatic versions available
- Easy installation
- Resistant against water and oil
- Life cycle up to 30 million strokes

**Content:**

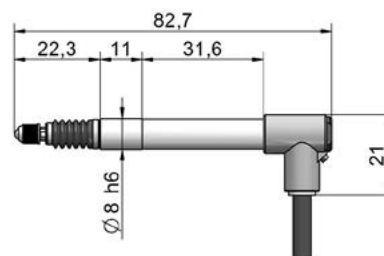
## MAGNESCALE DK805S - MEASUREMENT RANGE 5 mm

Model	DK805SAR, DK805SALR DK805SAFR, DK805SAFLR	DK805SBR, DK805SBLR DK805SBFR, DK805SBFLR	DK805SAR5, DK805SALR5 DK805SAFR5, DK805SAFLR5	DK805SBR5, DK805SBLR5 DK805SBFR5, DK805SBFLR5
Measurement range	5 mm			
Resolution	0.1 µm		0.5 µm	
Linearity (20°C)	1 µm		1.5 µm	
Max. displacement speed	80 m/min	42 m/min	250 m/min	100 m/min
Output	A/ B/ reference point, TTL-Linedriver according to EIA-422			
Power supply	5 VDC ±5 %			
Power consumption	1 W			
Reference point	one location at 1 mm			
Working temperature	0...50 °C			
Storage temperature	-20...60 °C			
Measuring force horizontal (20°C)	0.40 ±0.25 N			
Vacuum function	DK805SALR, DK805SAFLR, DK805SBLR, DK805SBFLR, DK805SALR5, DK805SAFLR5, DK805SBLR5, DK805SBFLR5			
Pneumatic push function	-			
Protection class	straight model: IP66, right-angle model: IP64 (IP67 when Ø 4 mm tube is connected to right angle model)			
Vibration	20...2000 Hz, 100 m/s <sup>2</sup>			
Shock	1000 m/s <sup>2</sup> , 11 ms			
Weight	approx. 30 g (without interpolator, cable and connector)			
Life cycle (tested)	60 million strokes, versions with bellow: 5 million strokes			
Feeler	Carbide ball tip, mounting screw M2,5 (different types available)		Steel ball tip, mounting screw M2,5 (different types available)	
Cable length	2.4 m			
Max. cable length (to electronics)	22 m			

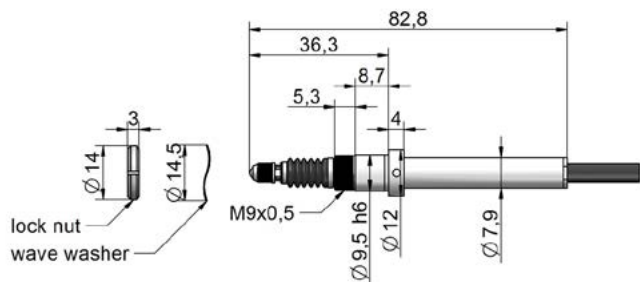
DK805SAR / DK805SAR5  
DK805SBR / DK805SBR5



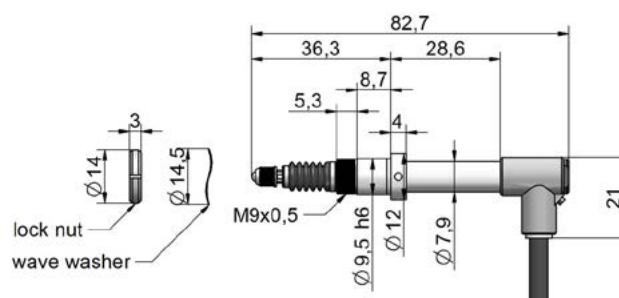
DK805SALR / DK805SALR5  
DK805SBLR / DK805SBLR5



DK805SAFR / DK805SAFR5  
DK805SBFR / DK805SBFR5

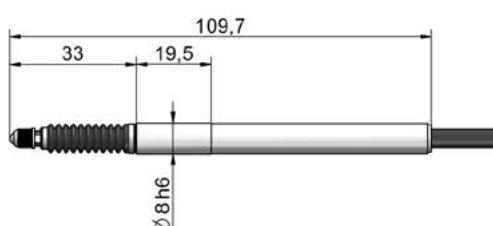
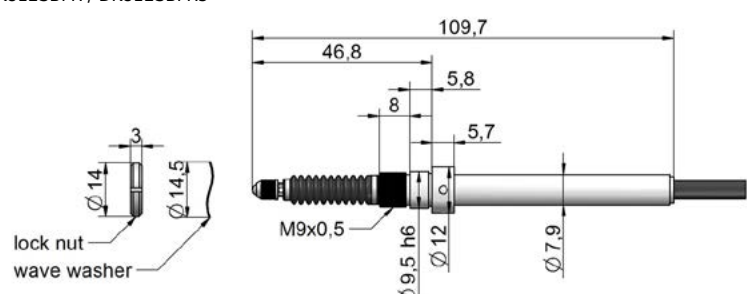
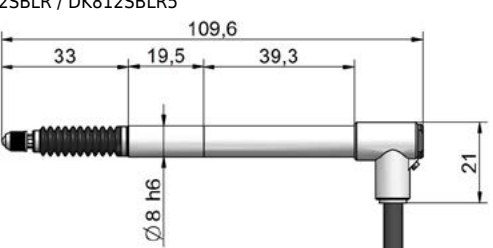
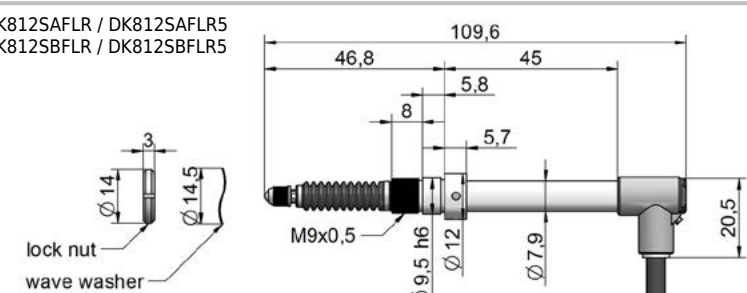
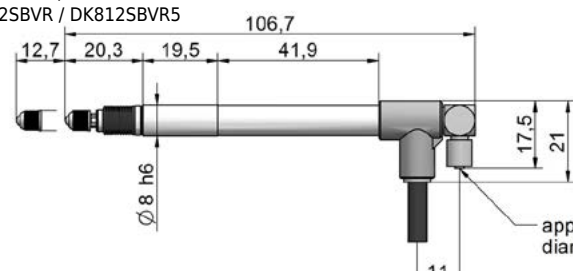


DK805SAFLR / DK805SAFLR5  
DK805SBFLR / DK805SBFLR5



# MAGNESCALE DK812S - MEASUREMENT RANGE 12 mm

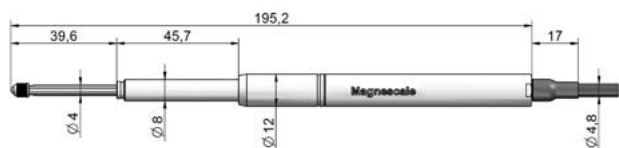
Model	DK812SAR, DK812SALR DK812SAFR, DK812SAFLR DK812SAVR	DK812SBR, DK812SBLR DK812SBFR, DK812SBFLR DK812SBVR	DK812SAR5, DK812SALR5 DK812SAFR5, DK812SAFLR5 DK812SAVR5	DK812SBR5, DK812SBLR5 DK812SBFR5, DK812SBFLR5 DK812SBVR5
Measurement range	12 mm			
Resolution	0.1 µm		0.5 µm	
Linearity (20°C)	1 µm		1.5 µm	
Max. displacement speed	80 m/min	42 m/min	250 m/min	100 m/min
Output	A/ B/ reference point, TTL-Linedriver according to EIA-422			
Power supply	5 VDC ±5 %			
Power consumption	1 W			
Reference point	one location at 1 mm			
Working temperature	0...50 °C			
Storage temperature	-20...60 °C			
Measuring force horizontal (20°C)	0.50 ±0.30 N, 0.70 ±0.50 N with pneumatic push type (0.55 bar)			
Vacuum function	DK812SALR, DK812SAFLR, DK812SBLR, DK812SBFLR, DK812SALR5, DK812SAFLR5, DK812SBLR5, DK812SBFLR5			
Pneumatic push function	DK812SAVR, DK812SBVR, DK812SAVR5, DK812SBVR5			
Air pressure	0.45...0.65 bar			
Protection class	straight model: IP66, right-angle model: IP64 (IP67 when Ø 4 mm tube is connected to right angle model)			
Vibration	20...2000 Hz, 100 m/s <sup>2</sup>			
Shock	1000 m/s <sup>2</sup> , 11 ms			
Weight	approx. 30 g (without interpolator, cable and connector)			
Life cycle (tested)	60 million strokes, versions with bellow: 5 million strokes			
Feeler	Carbide ball tip, mounting screw M2,5 (different types available)		Steel ball tip, mounting screw M2,5 (different types available)	
Cable length	2.4 m			
Max. cable length (to electronics)	22 m			

<p>DK812SAR / DK812SAR5 DK812SBR / DK812SBR5</p> 	<p>DK812SAFR / DK812SAFR5 DK812SBFR / DK812SBFR5</p> 
<p>DK812SALR / DK812SALR5 DK812SBLR / DK812SBLR5</p> 	<p>DK812SAFLR / DK812SAFLR5 DK812SBFLR / DK812SBFLR5</p> 
<p>DK812SAVR / DK812SAVR5 DK812SBVR / DK812SBVR5</p>  <p><b>Note: The letter V in the order code indicates a pneumatic push type model:</b></p> <p>By exposing to air pressure the rod is being pushed out. If the supply of pressurised air is interrupted an internal spring makes sure that the rod is being pulled inside again (see drawing).</p>	

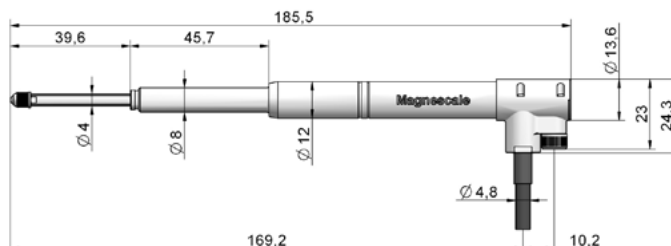
# MAGNESCALE DK830S - MEASUREMENT RANGE 30 mm

Model	DK830SRB, DK830SLRB, DK830SVRB	DK830SRB05, DK830SLRB05, DK830SVRB05	DK830SRB10, DK830SLRB10, DK830SVRB10
Measurement range	30 mm		
Resolution	0.1 µm	0.5 µm	1.0 µm
Linearity (20°C)	1.3 µm, air driven versions: 1.7 µm		
Max. displacement speed	42 m/min (on request also with 80 m/min)	100 m/min	200 m/min
Output	A/B (signal frequency 2.5 MHz / min. phase difference A/B: 100 ns), reference point, TTL-Linedriver according to EIA-422		
Power supply	5 VDC ± 5 %		
Power consumption	1 W		
Reference point	at 1 mm		
Working temperature	0...50 °C		
Storage temperature	-20...60 °C		
Versions with Air drive function	DK830SVRB, DK830SVRB05, DK830SVRB10		
Measuring force horizontal (20°C)	0.60 ± 0.35 N, air driven versions: 1.9 N at 0,7 bar, 2.6 N at 0.9 bar		
Protection class	IP53/ angular and air driven versions also IP67 (with optional bellows)		
Vibration	20...2000 Hz, 100 m/s <sup>2</sup>		
Shock	1000 m/s <sup>2</sup> , 11 ms		
Weight	70...80 g (without interpolator, cable and connector)		
Life cycle (tested)	60 Mio cycles, air driven versions: 30 Mio cycles		
Feeler	Carbide ball tip, mounting screw M2,5 (different types available)		
Cable length	2.4 m		
Max. cable length (to electronics)	22 m		

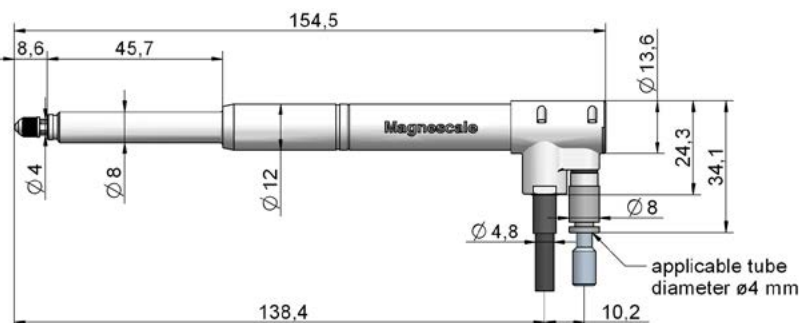
## DK830SRB, DK830SRB05, DK830SRB10



## DK830SLRB, DK830SLRB05, DK830SLRB10



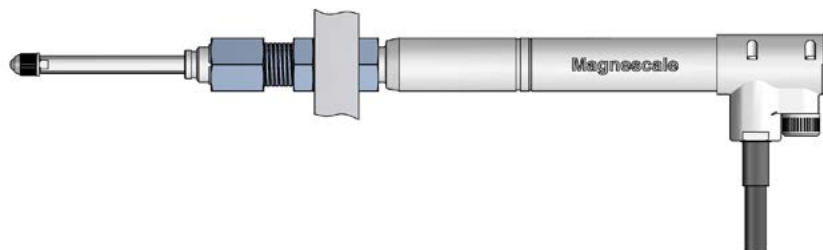
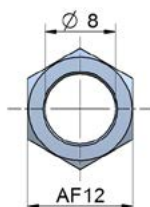
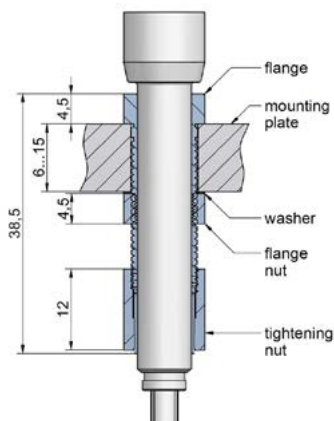
## DK830SVRB, DK830SVRB05, DK830SVRB10



**Note: The letter V in the order code indicates a pneumatic push type model:**

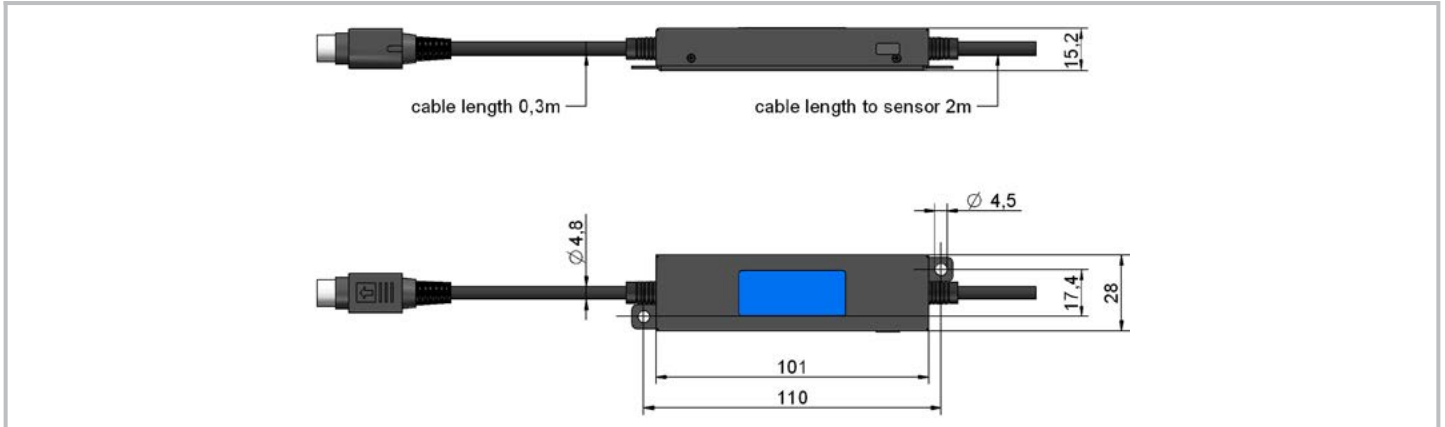
By exposing to air pressure the rod is being pushed out. If the supply of pressurised air is interrupted an internal spring makes sure that the rod is being pulled inside again (see drawing).

## Flanschadapter DZ830F



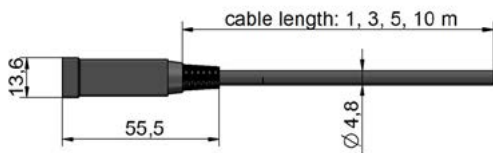
**Bellows set DZ830BL (for DK830SLRB)**  
**Bellows set DZ830BV (for DK830SVRB)**

## INTERPOLATOR UNIT



## ACCESSORIES

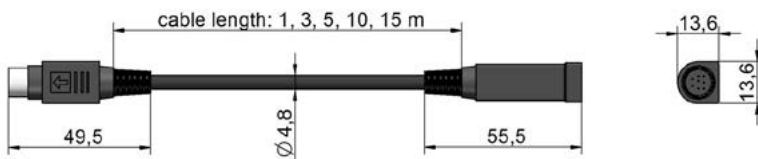
**Extension cable, open end:** CE22-01 (1 m), CE22-03 (3 m), CE22-05 (5 m), CE22-10 (10 m)



**Cable assignment, open end**

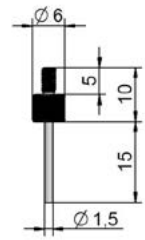
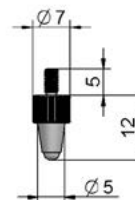
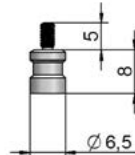
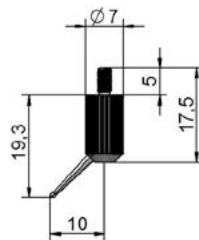
Function	+Vcc	0 V	A	A*	B	B*	Z	Z*
Cable color	red	white	blue	yellow	orange	grey	green	purple

**Extension cable, high flex** (for connection to display LT30): CK-T12 (1 m), CK-T13 (3 m), CK-T14 (5 m), CK-T15 (10 m), CK-T16 (15 m)



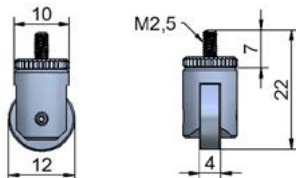
**Feeler-Set DZ5100:**

1. Off-center contact point:  $\varnothing 1,0$  mm steel ball
2. Flat carbide contact point  $\varnothing 6,5$  mm
3. Plastic ball contact point  $\varnothing 3,0$  mm, nylon ball
4. Pin contact point  $\varnothing 1,5$  mm



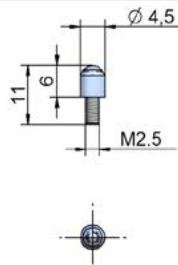
**Roller DZ100:**

Tolerance  $< 3 \mu\text{m/turn}$



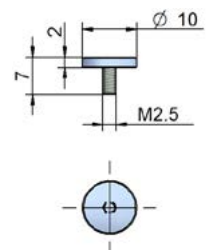
**Tastkopf-01 \***

Tastkopf-01: steel (standard)  
Tastkopf-01-HM: cemented carbide  
Tastkopf-01-R: ruby  
Tastkopf-01-K: ceramics



**Tastkopf-02**

Tastkopf-02: steel  
Tastkopf-02-HM: cemented carbide



**\* Material of the feeler balls:**

steel: for standard applications

ruby: much harder and wear resistant than steel, non-conductive, for all applications except for measuring on aluminium and cast iron

ceramics: comparable to ruby, best choice for measuring on aluminium and cast iron

## OUTPUT OPTIONS



Connection cable CE22 with open end to PLCs, counters ...  
A/A\*, B/B\*, Z

Connection cable CE29 to display units LY71/72

(no additional cable is needed for a connection to LT30)

Extension cable CKT12...15

Digital gauge with MG Module, output by RS232  
or Go/no-Go via BCD Module

Extension cable CKT12...15



Type	Description	for connection to	available lengths
CE22	connection cable open end	PLC, Counter, A/A*, B/B*, Z	1, 3, 5, 10 m
CE29	connection cable , Sub-D connector	Displays, LH70/71, LG20 LY71/72	1, 3, 5, 10 m
CKT12 bis 16	extension cable	MG10/20/30, CE22, CE29	1, 3, 5, 10, 15 m

## MAGNESCALE COUNTER LT30

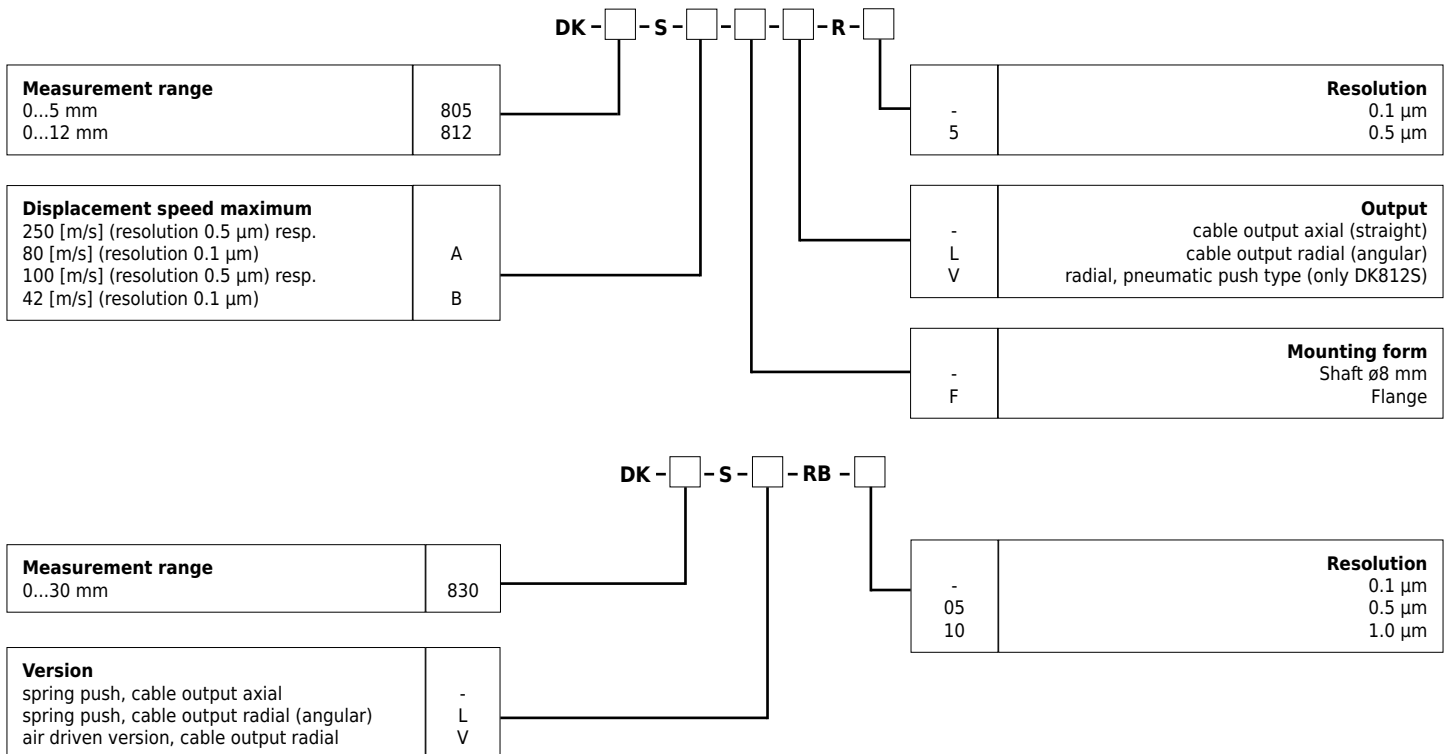
Compatible with digital gauges of the DK and DK-S series (without additional cable)

Features:

- Zero point detection
- Data storage
- BCD and RS-232C I/O models available
- Comparator
- Reset/Preset
- Alarm for exceeded max. displacement speed
- 2 axis ADD/SUB (2 axis model only)



## ORDER CODE



## ORDER CODES

DK805SAR

DK805SALR

DK805SAFR

DK805SAFLR

DK805SAR5

DK805SALR5

DK805SAFR5

DK805SAFLR5

DK805SBR

DK805SBLR

DK805SBFR

DK805SBFLR

DK805SBR5

DK805SBLR5

DK805SBFR5

DK805SBFLR5

DK812SAR

DK812SALR

DK812SAFR

DK812SAFLR

DK812SAVR

DK812SAR5

DK812SALR5

DK812SAFR5

DK812SAFLR5

DK812SAVR5

DK812SBR

DK812SBLR

DK812SBFR

DK812SBFLR

DK812SBVR

DK812SBR5

DK812SBLR5

DK812SBFR5

DK812SBFLR5

DK812SBVR5

DK830SRB

DK830SLRB

DK830SVRB

DK830SRB05

DK830SLRB05

DK830SVRB05

DK830SRB10

DK830SLRB10

DK830SVRB10

## DISPLAYS, CABLES & ACCESSORIES

### Displays

LT30-1G	1 channel display
LT30-1GC	1 channel display with RS232C
LT30-1GB	1 channel display with BCD output
LT30-2G	2 channel display
LT30-2GC	2 channel display with RS232C
LT30-2GB	2 channel display with BCD output

### Extension and connection cables

CE22-01	1m, open end
CE22-03	3m, open end
CE22-05	5m, open end
CE22-10	10m, open end
CK-T12	1m, high flex extension cable
CK-T13	3m, high flex extension cable
CK-T14	5m, high flex extension cable
CK-T15	10m, high flex extension cable
CK-T16	15m, high flex extension cable

### Accessories

DZ100	Roller
DZ5100	Feeler Set
Tastkopf-01	Standard (included in delivery)
Tastkopf-01-HM	Cemented carbide ball
Tastkopf-01-R	Ruby ball
Tastkopf-01-K	Ceramics ball
Tastkopf-02	Steel plate
Tastkopf-02-HM	Cemented carbide plate
DZ830BL	Bellows (for DK830SLR)
DZ830BV	Bellows (for DK830SVR)
DZ830F	Flange adapter (for DK830S)



Subject to change without prior notice.

eddylab GmbH  
Mehlbeerenstr. 4  
82024 Taufkirchen

Tel. +49 (0)89 666 16 11-0  
Fax +49 (0)89 666 16 11-100

E-mail [info@eddylab.de](mailto:info@eddylab.de)  
Internet [www.eddylab.de](http://www.eddylab.de)

