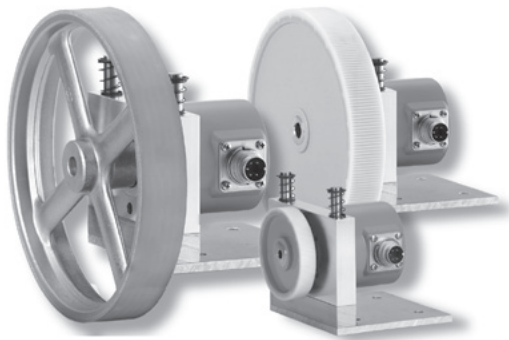


# Linear Measuring Technology

Length measuring kits	Length measuring kit with encoder	incl. measuring wheel
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The (metric) measuring kit is a complete solution for the quick and simple implementation of length measurements on products in movement.

### Flexible

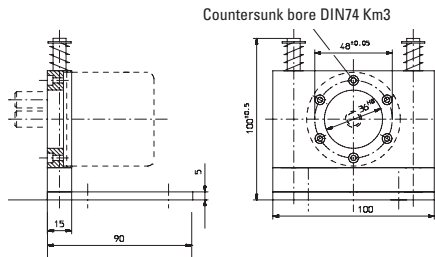
- Various measuring wheels for various applications:
  - Hytrel for the textile industry
  - Vulkollan for the wood, paper, metal and plastics industry
- Resolution 1 mm

### Easy operation

- The encoder support ensures an optimal load on the encoder shaft.
- No additional power supply is required for the encoder, since it can be powered directly by the preset counter.

### Single components

**Flexible holding device for encoders**



**Guide rods  
Flange**

stainless steel  
Al

**8.0010.7000.0004**

**Spring encoder arm (s. page 286)**

**8.0000.7000.010**

**Measuring wheels (s. page 285)**

- 0.2 m measuring wheel, plastic (Hytrel) corrugated
- 0.5 m measuring wheel, plastic (Vulkollan) smooth
- 0.5 m measuring wheel, plastic (Hytrel) corrugated

**8.0000.3291.0010**  
**8.0000.3552.0010**  
**8.0000.3592.0010**

**Encoder**

- type 5000 for 0.2 m measuring wheel, 1 mm resolution
- type 5000 for 0.5 m measuring wheel, 1 mm resolution

**8.5000.8354.0200**  
**8.5000.8354.0500**

**Standard cordset**

with 2 m PVC cable, M12

**05.WAKS8-2/P00**

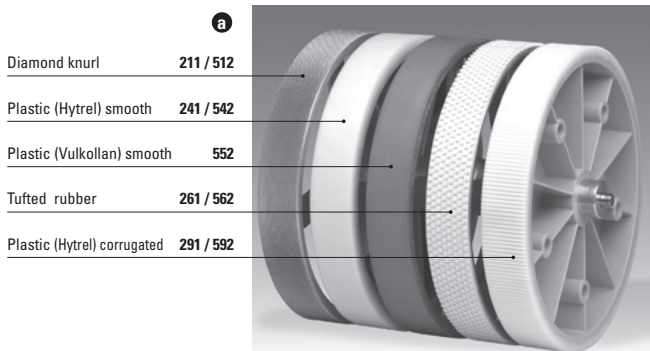
**Preset counter**

716 LED preset counter, 90 - 260 V AC, 1 preset

**6.716.010.000**

# Linear Measuring Technology

## Accessories Measuring wheels



- a** Diamond knurl 211 / 512
- Plastic (Hytrell) smooth 241 / 542
- Plastic (Vulkollan) smooth 552
- Tufted rubber 261 / 562
- Plastic (Hytrell) corrugated 291 / 592

Measuring wheels are utilized in combination with encoders to measure material in the wood, paper, metal, textile and plastic industry.

When selecting a measuring wheel, the first consideration is the type of material to be measured as this serves as the basis for determining the surface finish or coating of the measuring wheel.

Various diameters, designed for use with Kübler encoders, available for metric and imperial systems.

### Selection of the measuring wheel profile according to the surface of the measured material

Surface of the measured material	Recommended profile no.
Cardboard	1, 2, 3, 6
Wood	1, 2, 3, 6
Textile	1, 4, 5
Plastic (e.g. PVC, PE, ...)	2, 3, 6
Paper	2, 3, 6
Wire	3, 6
Bare metals	4
Varnished surfaces	4

Please note:

If a measuring wheel is mounted directly on the shaft of a rotary encoder, the pressure force between the measuring wheel and measured material should not exceed the radial shaft load listed in the data sheet of the encoder.

In addition, the measuring wheels can only be used for in-house purposes which are not subject to the stipulations of the German calibration code.

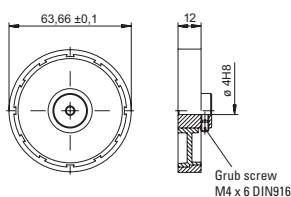
### Order code 8.0000 . 3 XXX . 00 XX

Measuring wheels **a** **b**

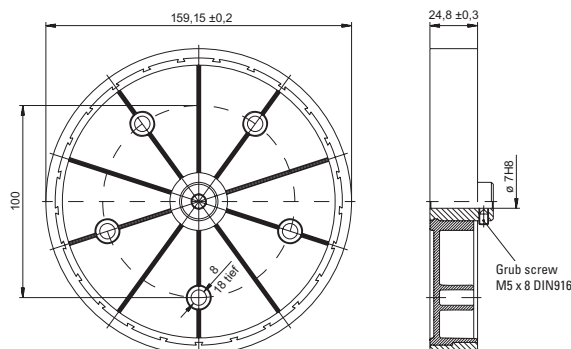
Measuring wheel Circumference / $\phi$ / width	Profile measuring wheels (s. o.)	Coating	Coating hardness A	Wheel No. <b>a</b>	Material of wheel body [mm]	Working temperature [°C]	Weight [g]	Standard-bore <b>b</b> [mm] <sup>1)</sup>
0,2 m / $\phi$ 63,7 mm / 12 mm	1	diamond knurl		211	aluminium	–	40	04, 06, 10
	2	plastic (Hytrell) smooth	85 ... 90	241	plastic	-10 ... +50	35	04, 06, 10
	4	tufted rubber		261	aluminium	-10 ... +50	40	06, 10
	5	plastic (Hytrell) corrugated	85 ... 90	291	plastic	-10 ... +70	35	04, 06, 10
0,5 m / $\phi$ 159,2 mm / 25 mm	1	diamond knurl		512	aluminium	–	350	10
	2	plastic (Hytrell) smooth	85 ... 90	542	plastic	-10 ... +50	260	10
	3	plastic (Vulkollan) smooth	85 ... 90	552	aluminium	-30 ... +80	320	10
	4	tufted rubber		562	aluminium	-30 ... +80	320	10, 12
	5	plastic (Hytrell) corrugated	85 ... 90	592	plastic	-30 ... +80	260	06, 10
12" / $\phi$ 3,82" / 0,38"	6	Natural rubber (NR) (smooth)	70 ... 75	751	aluminium	-30 ... +80	100	10

### Dimensions

#### Measuring wheels No. 2XX



#### Measuring wheels No. 5XX



1) Other bore diameters on request

**Accessories** **Spring encoder arm**



**Robust and reliable**

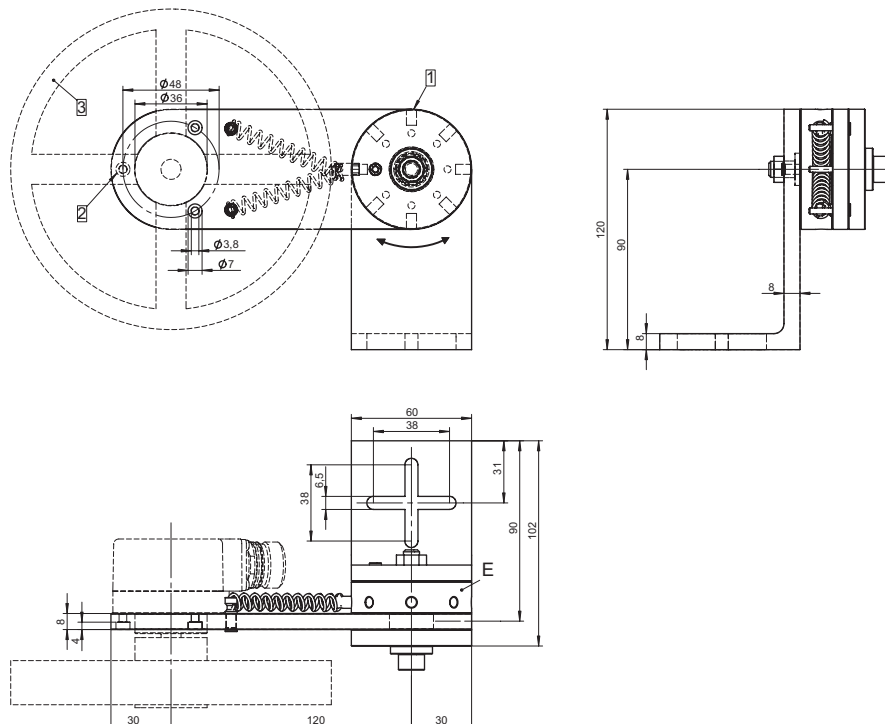
- Max. 40 N, adjustable spring pressure available in any position  
Pressure for each notch appr. 20 N (first notch between 0 and appr. 20 N)
- Wide temperature range -40°C ... 120°C

**Versatile**

- Can be installed in any mounting position 9 setting positions in 40° steps
- Base plate – variable in 4 directions

**Order No.** **8.0010.7000.0010**

**Dimension**



- 1 Setting with a size 0 or 1 screwdriver
- 2 3 pcs. screws M3 x 8 DIN 912 included
- 3 Measuring wheel

# Linear Measuring Technology

**Mini Measurement System**

**Measuring wheel system, incl. encoder**

**Incremental**



**Very compact Mini Measurement System with incremental interface**

### Easy to install

- The measuring wheel, the sensor and the fastening are pre-assembled and thus easy to install:  
fix – connect – ready-to-go

### Compact construction

- Dimensions of the whole unit 74 mm x 50 mm x 52 mm
- Measuring wheel circumference 100 mm

### Order code

**05.2400.0040.1000.50 XX**

**a**

*Resolution*  
0.1 mm

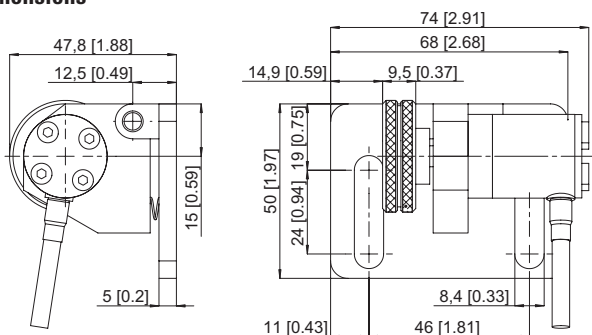
*Cable outlet*  
radial, 2 m PVC cable

**a** *Measuring wheel*  
45 = Knurled aluminium  
49 = Rubber, Shore hardness 60

### Technical Data

<b>Speed max.</b>	2000/min.
<b>Protection</b>	IP64
<b>Output circuit</b>	Push-pull with inversion
<b>Power supply</b>	8 ... 30 V DC
<b>Current</b>	≤ 20 mA
<b>Load channel max.</b>	20 mA
<b>Output frequency max</b>	≥ 100 kHz

### Dimensions



# Linear measuring technology

**Length measuring kits  
flexible fastening**

**Spring encoder arm**



### Robust and reliable

- Max. 40 N, adjustable spring pressure available in any position.
- Pressure for each notch appr. 20 N (first notch between 0 and appr. 20 N).
- Wide temperature range -40°C ... +120°C.

### Versatile

- Can be installed in any mounting position 8 setting positions in 45° steps.
- Base plate – variable in 4 directions.

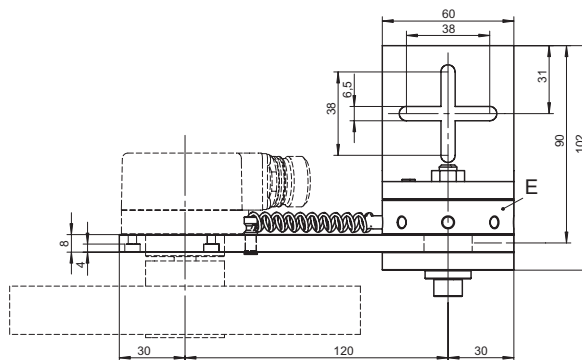
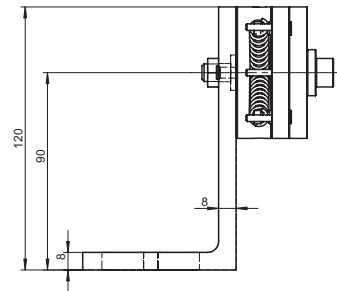
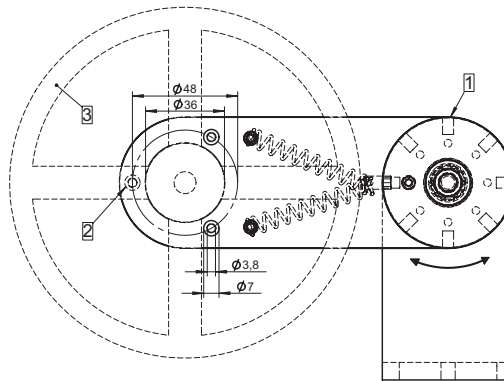
**Order code**

**8.0010.7000.0010**

### Dimensions

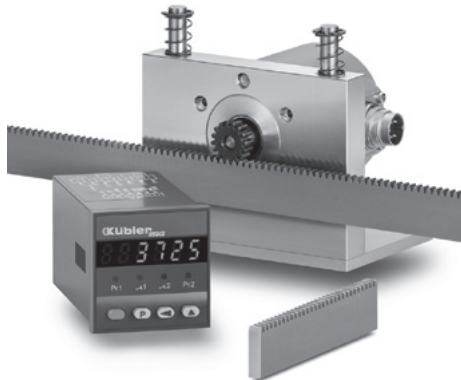
Dimensions in mm

- 1 Setting with a size 0 or 1 screwdriver
- 2 3 pcs. screws M3 x 8 DIN 912 included
- 3 Measuring wheel



# Linear Measuring Technology

## Length measuring kit      Displacement measuring device      with rack



Measuring system with mobile encoder holder, mounted on springs, (with rack and pinion) for an optimum contact pressure and protection of the encoder shaft.

Components suited optimally to each other. One rotation of the pinion corresponds to a movement of 50 mm.

The holding device for the encoder (8.0010.7000.0004) is a movable support for encoders, to the shaft of which, for instance, a measuring wheel or pinion can be attached. Due to the fact that it is movable, optimum contact pressure is ensured and overload on the bearings of the encoder prevented.

When used in conjunction with a pulse generating unit, the rack and pinion combination (8.0010.7000.0001 and ...0002) serves as a simple length and displacement measuring system. One rotation of the pinion on the rack corresponds to a displacement of 50 mm. Moreover the racks are designed in such a way that they can be butt-mounted without pitch error.

The absolute accuracy is 0.5 mm per meter. The resolution / repetition accuracy is 0.1 mm. Holding device, rack and pinion are available as a set for the purpose of displacement measurement (8.0010.7000.0005).

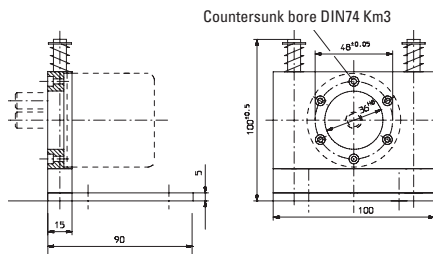
The installation aid (8.0010.7000.0003) is required to maintain exact pitch when butt-mounting racks.

Typical areas of application are:

- Wood working industry
- Textile industry
- Handling and automation technology
- Mechanical engineering / Special machines

### Single components

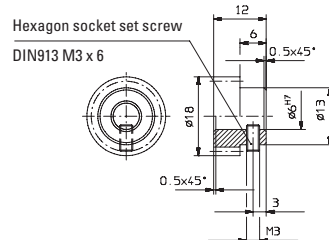
**Flexible holding device for encoders**



**Guide rods** stainless steel  
**Flange** Al

**8.0010.7000.0004**

**Pinion for displacement measuring device**

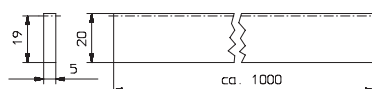


**Material** free-cutting steel  
**Surface** burnished  
**Module pitch** approx. 1  
**No of teeth** 16

with bore diameter  $\varnothing$  6 mm  
with bore diameter  $\varnothing$  10 mm

**8.0010.7000.0002**  
**8.0010.7000.0006**

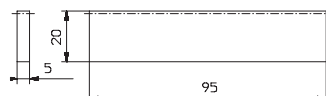
**Rack**



**Material** S235JR  
**Surface** uncoated  
**Module pitch** approx. 1

**8.0010.7000.0001**

**Installation aid**



**Material** S235JR  
**Surface** uncoated  
**Module pitch** approx. 1

**8.0010.7000.0003**

**Encoder**

type 5000, for rack and pinion, 0.1 mm resolution

**8.5000.8354.0500**

**Standard cordset**

with 2 m PVC cable, M12

**05.WAKS8-2/P00**

**Preset counter**

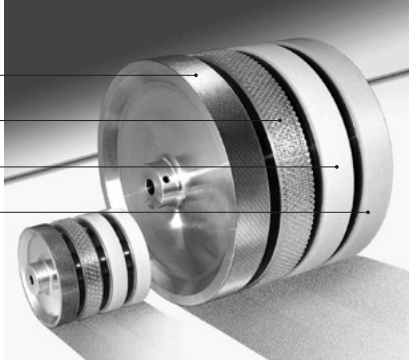
716 LED preset counter, 90 ... 260 V AC, 1 preset  
923 LCD preset counter 90 ... 260 V AC, 1 preset

**6.716.010.000**  
**6.923.0100.000**

# Linear measuring technology

## Length measuring kits measuring wheels Various wheel coatings

	<b>a</b>
Diamond knurl	217 / 517
Tufted rubber	267 / 567
Plastic corrugated	297 / 597
Plastic smooth	247 / 547



Measuring wheels for measuring the length of products in movement, e.g. in the paper, metal, textile, wood or plastic industry.

Various tires to meet the requirements of the various surfaces of the product to be measured – various diameters, designed for use with Kübler encoders, available for metric and imperial systems.

### Selection of the measuring wheel profile according to the surface of the measured material

Surface of the measured material	Recommended profile no.
Cardboard	1, 2, 3, 4, 5
Wood	1, 2, 3, 4, 5
Textile	1, 2, 3, 4
Plastic (e.g. PVC, PE, ...)	2, 3, 4, 5
Paper	2, 3, 4, 5
Wire, greased metals, steel profiles, leather	2
Carpet, cables, nonwoven	3
Greased metals, glass, floor coverings	4
Painted surfaces	2, 4
Rubber, soft plastic	1

Please note:  
If a measuring wheel is mounted directly on the shaft of a rotary encoder, the pressure force between the measuring wheel and measured material should not exceed the radial shaft load listed in the data sheet of the encoder.  
In addition, the measuring wheels can only be used for in-house purposes which are not subject to the stipulations of the German calibration code.

### Order code Measuring wheels

Measuring wheel	Profile measuring wheels (see above)	Coating	Coating hardness Shore A	Wheel no. <b>a</b>	Weight	Standard bore <b>b</b> <sup>1)</sup>	Material of wheel body	Working temperature
0.2 m / ø 63.7 mm / 12 mm [7.87" / ø 2.51" / 0.47"]	1	diamond knurl (aluminum)		217	60 g [2.12 oz]	06 = 6 mm [0.24"] 10 = 10 mm [0.39"]	aluminum	-30°C ... +80°C [-22°F ... +176°F]
	2	plastic (polyurethane) smooth	90	247	60 g [2.12 oz]			
	3	tufted rubber (polyurethane)	60	267	60 g [2.12 oz]			
	4	plastic (polyurethane) corrugated	90	297	60 g [2.12 oz]			
0.5 m / ø 159.2 mm / 25 mm [19.69" / ø 6.27" / 0.98"]	1	diamond knurl (aluminum)		517	775 g [27.34 oz]	10 = 10 mm [0.39"]	aluminum	-30°C ... +80°C [-22°F ... +176°F]
	2	plastic (polyurethane) smooth	90	547	700 g [24.69 oz]			
	3	tufted rubber (polyurethane)	60	567	700 g [24.69 oz]			
	4	plastic (polyurethane) corrugated	90	597	700 g [24.69 oz]			
12" / ø 3.82" / 0.38"	5	natural rubber (NR) smooth		751	100 g [3.53 oz]	10 = 10 mm [0.39"]	aluminum	-30°C ... +80°C [-22°F ... +176°F]

1) Other bore diameters on request

# Linear measuring technology

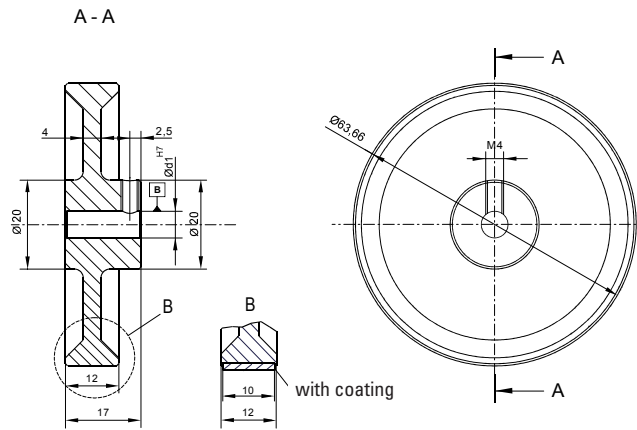
## Length measuring kits measuring wheels

## Various wheel coatings

### Dimensions

Dimensions in mm [inch]

#### Measuring wheel no. 2XX



#### Measuring wheel no. 5XX

