

# Datasheet

Electronic meter counter with measuring display.

## Features at a glance

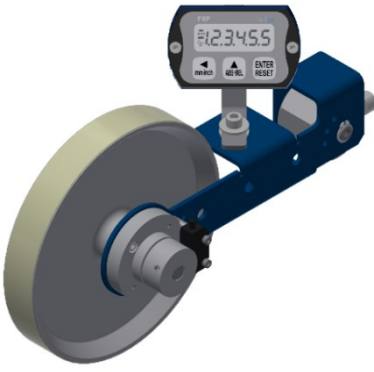
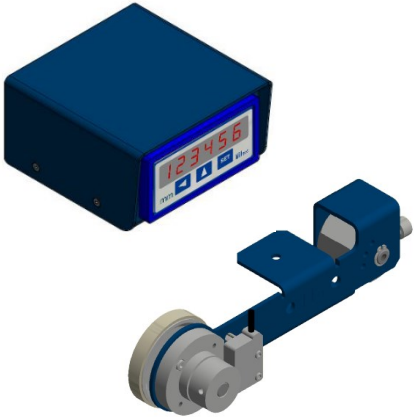
- Electronic length measuring system including electronic measuring display in modular design.
- Measurement of linear movements directly on the surface of running materials.
- Individual adaptation possibilities through different measuring wheel sizes (up to 500 mm/revolution) offer numerous applications in various machine industries.
- Incremental magnetic sensor or magnetic ring for rotary distance measurement (length).
- Robust design with easy replacement of the measuring wheels.
- Programmable measuring display: counting direction, change between incremental and absolute measurement, scaling factor adjustable, changeable units / resolution, conversion from cm to inch.
- Supply battery-powered or with external power supply.
- Measuring display directly attached or externally in an installation or mounting housing.

**i** Depending on the application, we offer you the electronic meter counter in a wide variety of designs with customer-specific options.

## Standard variants Examples

### MZ/E Light Short

Electronic meter counter with programmable measuring display, direct or remote display in mounting housing

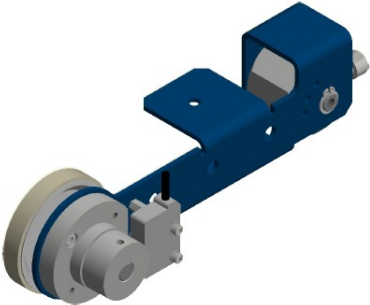
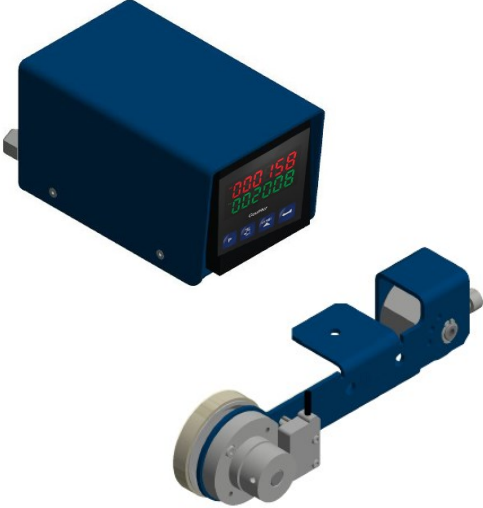
MZ/E-LS-B-F8P/DA-P-X-500/G	MZ/E-LS-24-EP2/FA-P-5,0-200/G
<ul style="list-style-type: none"> <li>• Measuring display F8P (battery powered), direct mounting in mounting housing</li> <li>• Resolution programmable</li> <li>• Magnetic sensor with magnetic ring</li> <li>• Measuring wheel with 500 mm circumference, tread PU, smooth, vulcanized, corpus aluminium</li> </ul>  <p style="text-align: right;">Art. No.: 23665</p>	<ul style="list-style-type: none"> <li>• Measuring display EP2 (24 VDC), remote display in mounting housing</li> <li>• Resolution programmable</li> <li>• Magnetic sensor with magnetic ring</li> <li>• Cable length 5 m</li> <li>• Measuring wheel with 200 mm circumference, tread PU, smooth, vulcanized, corpus aluminium</li> </ul>  <p style="text-align: right;">Art. No.: 26362</p>

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## Standard variants Example

### MZ/E Light Short

Electronic meter counter with incremental magnetic sensor type LHR5, without measuring display or with preset counter type VZE-72Q, remote display in mounting housing

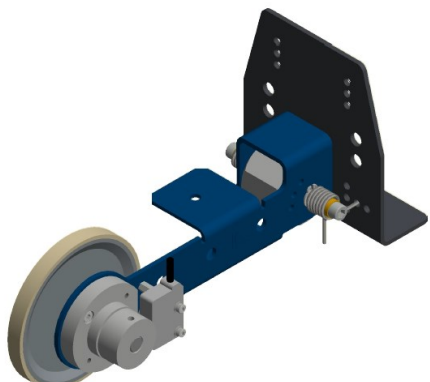
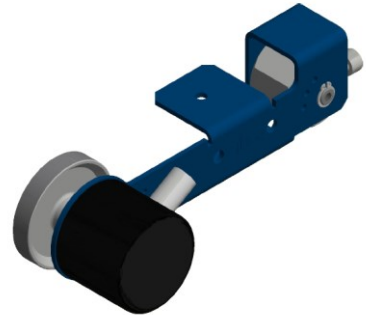
MZ/E-LS-24-LHR5/L-250-2,0-200/G	MZ/E-LS-24-VZE-72Q/FA-P-2,0-200/G
<ul style="list-style-type: none"> <li>• Power supply 24 VDC</li> <li>• Magnetic sensor type LHR5/1,</li> <li>• Output signal: Line Driver, 250 pulses/revolution, resolution up to 5 <math>\mu\text{m}</math>, system accuracy <math>\pm 100 \mu\text{m}</math></li> <li>• Cable length 2 m</li> <li>• Measuring wheel with 200 mm circumference, tread PU, smooth, vulcanized, corpus aluminium</li> </ul>  <p style="text-align: right;">Art. No.: 26063</p>	<ul style="list-style-type: none"> <li>• Preset counter VZE-72Q (24 VDC), remote display in mounting housing</li> <li>• Resolution programmable</li> <li>• Magnetic sensor with magnetic ring</li> <li>• Cable length 2 m</li> <li>• Measuring wheel with 200 mm circumference, tread PU, smooth, vulcanized, corpus aluminium</li> </ul>  <p style="text-align: right;">Art. No.: 25215</p>

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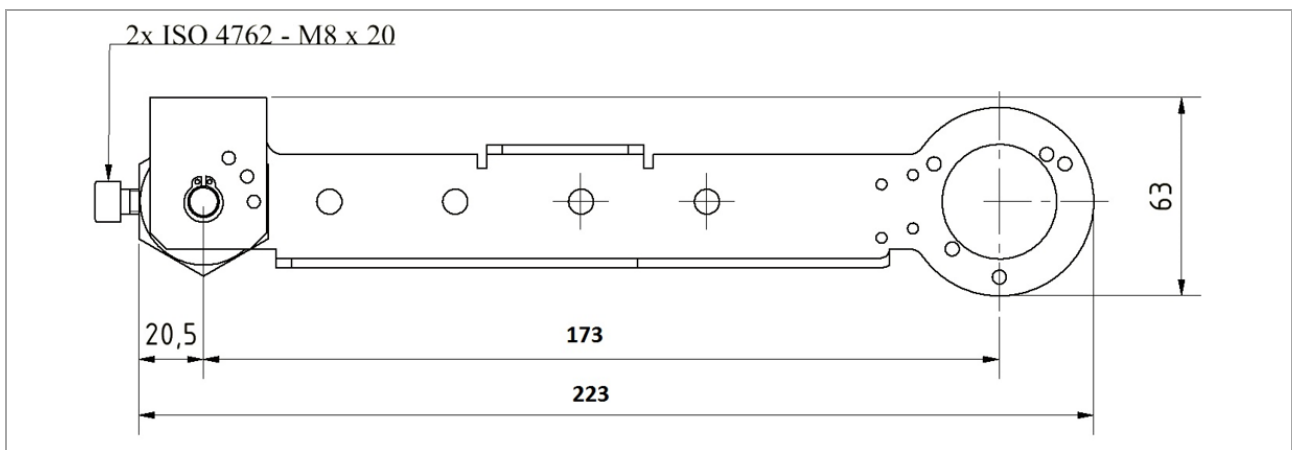
**Standard variants** Example

**MZ/E Light Short**

Electronic meter counter with incremental magnetic sensor or rotary encoder, without measuring display

MZ/E-LS-24-LHR5/L-250-2,0-304,8/G-DFW	MZ/E-LS-24-WIG110-500-5,0-200/R
<ul style="list-style-type: none"> <li>• Power supply 24 VDC</li> <li>• Magnetic sensor type LHR5/1,</li> <li>• Output signal: Line Driver 250 pulses/revolution,</li> <li>• Cable length 2 m</li> <li>• Measuring wheel with 304,8 mm circumference, tread PU, smooth, vulcanized, corpus aluminium</li> <li>• Bracket with torsion spring</li> </ul>  <p style="text-align: right;">Art. No.: 32703</p>	<ul style="list-style-type: none"> <li>• Power supply 24 VDC</li> <li>• Rotary encoder type WIG110, Output signal: Push Pull 500 pulses/revolution, Cable length 5 m</li> <li>• Measuring wheel with 200 mm circumference, tread aluminium, crisscross knurled, corpus aluminium</li> </ul>  <p style="text-align: right;">Art. No.: 31144</p>

**Dimensions** Basic design



Side view

All dimensions in [mm]

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## Mechanical characteristics

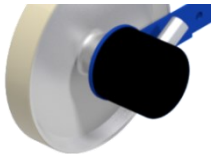

Measuring wheel (standard)			
Circumference	200 mm (standard)	304,8 mm (=12 Inch)	500 mm
Drilling	Ø = 10 mm		
Material	Blank Surface	Aluminium Aluminium [R]; Polyurethane [G; RI; N]; Rubber [GG; GR]	

Measuring system	
Weight	approx. 1,0 – 1,5 kg depending on design
Repeatability	±0,4 %
Measuring speed	< 400 m/min

## Electrical characteristics

Interface	RS485 (SUBD9; 9 pins); only with external power supply
Measuring system port DA/FA	Open cable end (standard) M12 connector; 8 pins (on request)

## Sensors

	Rotary encoder	Magnetic sensor
	WIG110	LHR5/1
<b>Incremental</b>		
<b>Power supply</b>	5 VDC or 24 VDC	5 VDC or 24 VDC
<b>Resolution</b> (standard) ppr	1/ 50/ 100/ 250/ 200/ 500/ 1000/ 5000	5000
<b>Output signal</b>	PP = Push Pull; LD = Line Driver	
<b>IP-rating</b>	IP65	IP67

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## Measuring wheels

Individual adaptation possibilities due to the different properties of the tread offer various application possibilities.

Tread	smooth [G]	corrugated [RI]	studded [N]	crisscross knurled [R]	O-ring [OR]
Cardboard / Paperboard	X	X	X	X	
Wood material	X	X	X	X	
Plastic (PE, PVC, etc.)	X	X	X	X	
Textile	X	X	X		
Paper	X	X	X		X
Metal, greasy parts, steel	X				
Leather	X				
Carpet, fleece			X		
Hose, cable			X		
Glass, plastic floor coverings		X			
Painted surfaces	X	X			
Rubber, foam, soft plastic				X	

## Material

Tread - Material	Aluminium [AL]	Polyurethane [PUR]	Hytrel [TPE]	Nitril [NBR]
Permissible operating temperature	-30 °C ... +180 °C		-10 °C ... +70 °C	-10 °C ... +50 °C

**Material hardness** (Shore hardness), measuring wheel series MR200 (circumference  $\geq$  200 mm)

Tread - Profile	crisscross knurled [R]	smooth [G]	smooth [G]	studded [N]	corrugated [RI]
Tread material	AL	TPE	PUR	NBR	TPE
Tread hardness approx.	--	90 Shore A	--	55 $\pm$ 5 Shore A	90 Shore A

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## Measuring display

Measuring display directly attached or externally in an installation or mounting housing

Mechanical characteristics	Direct display	Remote display	
	Mounting housing	Inst. housing	Inst. housing
<b>Battery-powered</b>			
<b>F8P</b> <ul style="list-style-type: none"> <li>Display range: 999,999</li> <li>Digit height: 10.0 mm</li> <li>Measuring system: integrated</li> <li>Resolution: 5.000 ppr</li> <li>Power supply: 3.6 VDC</li> </ul>			
<b>WVZ11</b> <ul style="list-style-type: none"> <li>Display range: two lines each 99.9999</li> <li>Digit height: 8.0 mm</li> <li>Measuring system: LHR5</li> <li>Resolution: 5,000 ppr</li> <li>Power supply: 3.6 VDC or 10 to 30 VDC</li> </ul>	Figure On request	Figure On request	
<b>External power supply</b>			
<b>EP1-S</b> <ul style="list-style-type: none"> <li>Display range: 99.999999</li> <li>Digit height: 8.0 mm</li> <li>Measuring system: LHR5</li> <li>Resolution: 5.000 ppr</li> <li>Power supply: 24 VDC or 230 VAC</li> </ul>			
<b>EP2-I</b> <ul style="list-style-type: none"> <li>Display range: 99.9999</li> <li>Digit height: 14.0 mm</li> <li>Measuring system: LHR5</li> <li>Resolution: 5.000 ppr</li> <li>Power supply: 24 VDC or 230 VAC</li> </ul>			
<b>VZE</b> <ul style="list-style-type: none"> <li>Display range: two lines each 99.9999</li> <li>Digit height: 8.0 mm</li> <li>Measuring system: LHR5</li> <li>Resolution: 5,000 ppr</li> <li>Power supply: 24 VDC or 230 VAC</li> </ul>	Figure On request		

# Datasheet

## Ordering example Electronic meter counter with measuring display

**MZ/E** - **LS** - **B** - **F8P/DA** - **P** - **X** - **200/G** -

### Type

**LS** = Light Short

### Power Supply

**B** = battery-powered  
24 = 24 VDC/ external power supply  
230 = 230 VAC/ external power supply

### Display /Installation Position

**F8P** = battery-powered  
EP1 = EP1-S; external power supply  
EP2 = EP2-I; external power supply  
WVZ11 = battery-powered  
VZE = external power supply  
VZ24 = external power supply

### Display /Installation Position

**/DA** = direct display; mounting housing  
**/FA** = remote display; mounting housing  
**/FE** = remote display; installation housing

### Resolution

**P** = programmable  
**X** = custom programming (on request)

### Cable Length

**X** = direct display; mounting housing  
xx = 1.0; 2.0; 5.0; 10 = remote display  
(observe German decimal separator ",")

### Measuring Wheel Circumference [mm] /Tread

**200**; 304,8; 500

### Measuring Wheel Circumference [mm] /Tread

**/G** = smooth  
**/RI** = corrugated  
**/N** = studded  
**/R** = crisscross knurled  
**/GG** = rubber, smooth  
**/GR** = rubber, knurled

### Fastening

**DFW** = Bracket with torsion spring

# Datasheet

## Ordering example Electronic meter counter without measuring display

**MZ/E** - **LS** - **24** - **LHR5/Y** - **500** - **1,0** - **200/G** -

### Type

**LS** = Light Short

### Power Supply

**5** = 5 VDC  
**24** = 24 VDC

### Measuring System /Output Signal

**LHR5** = LHR5/1 sensor  
WIG110= rotary encoder

### Measuring System /Output Signal

**/Y** = Push Pull  
**/L** = Line Driver

### Resolution [ppr]

1; 50; 100; 200; 250; **500**; 1000; 5000  
further resolutions on request

### Cable Length [m]

**1,0**; 2,0; 5,0; 10

### Measuring Wheel Circumference [mm] /Tread

**200**; 304,8; 500

### Measuring Wheel Circumference [mm] /Tread

**/G** = smooth  
**/RI** = corrugated  
**/N** = studded  
**/R** = crisscross knurled  
**/GG** = rubber, smooth  
**/GR** = rubber, knurled

### Fastening

**DFW** = Bracket with torsion spring



Variants that cannot be configured from the ordering example are available on request as a special version.

The manufacturer reserves the right to make changes to the products that it deems necessary for their improvement without prior notice.