



# Datasheet

## Length measurement system LMSMA25

[www.wachendorff-automation.com/lmsma25](http://www.wachendorff-automation.com/lmsma25)

### Wachendorff Automation

#### ... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

# Robust length measurement system LMSMA25



- Compact system with new spring-loaded arm, including WDGI 58Z encoder and 500 mm measuring wheel
- Up to 0.02 mm/impulse for measurement results
- Suitable for many surfaces
- Absorbent mounting
- Contact pressure – easily adaptable by intelligent central adjustment
- Versatile mounting (e.g. mounting profile)

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## Resolution WDGI 58Z10 with

|            |                              |
|------------|------------------------------|
| 500 ppr:   | 1 pulse/mm = 1.0 mm/pulse    |
| 5000 ppr:  | 10 pulses/mm = 0.1 mm/pulse  |
| 12500 ppr: | 25 pulses/mm = 0.04 mm/pulse |
| 25000 ppr: | 50 pulses/mm = 0.02 mm/pulse |

## Mechanical Data of the system modules

### Housing encoder

|                 |                                  |
|-----------------|----------------------------------|
| Flange          | clamping flange                  |
| Flange material | aluminium                        |
| Housing cap     | die cast aluminum, powder coated |

### Shaft(s)

|                 |                                      |
|-----------------|--------------------------------------|
| Shaft material  | stainless steel                      |
| Starting torque | approx. 1 Ncm at ambient temperature |

|                                       |                         |
|---------------------------------------|-------------------------|
| Shaft                                 | Ø 10 mm shaft with flat |
| Shaft length                          | L: 20 mm                |
| Max. permissible shaft loading radial | 220 N                   |
| Max. permissible shaft loading axial  | 120 N                   |

### Bearings

|                      |          |
|----------------------|----------|
| Max. operating speed | 8000 rpm |
|----------------------|----------|

### Spring loaded arm

|                               |  |
|-------------------------------|--|
| Adjustable prestressing force | 0 N up to 30 N in steps of 5 N                                 |
| Length of spring lever axis   | 120 mm   |
| Material                      | die cast aluminum  |
| Interlock                     | Spring loaded arm can be interlocked at 100° to start position |
| Contact pressure              | adjustable, 10°-step equates 5 N pressure increase             |

## Machinery Directive: basic data safety integrity level

|  |  |
|--|--|
| MTTF <sub>d</sub>                        | 200 a  |
| Mission time (T <sub>m</sub> )           | 25 a   |
| Nominal service life (L <sub>10h</sub> ) | 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 8000 rpm |
| Diagnostic coverage (DC)                 | 0 %  |

## Electrical Data

|                     |                                     |
|---------------------|-------------------------------------|
| Power supply/       | 4.75 VDC up to 5.5 VDC: max. 100 mA |
| Current consumption | 10 VDC up to 30 VDC: max. 100 mA    |
| Output circuit      | TTL,<br>HTL                         |
| Channels            | ABN and inverted signals            |
| Load                | max. 40 mA / channel                |
| Circuit protection  | 10 VDC up to 30 VDC, HTL only       |

## Accuracy

|                    |                                      |
|--------------------|--------------------------------------|
| Phase offset       | 90° ± max. 7,5 % of the pulse length |
| pulse-/pause-ratio | 50 % ± max. 7 %                      |




## General Data

|                              |                            |
|------------------------------|----------------------------|
| Weight                       | approx. 1100 g             |
| Connection                   | Connector radial           |
| Protection rating (EN 60529) | IP67, shaft sealed to IP65 |

## Operating temperature

|           |                     |
|-----------|---------------------|
| LMSxxxKH: | -10 °C up to +70 °C |
| LMSxxxKG: | -10 °C up to +70 °C |
| LMSxxxNG: | -10 °C up to +50 °C |

## Range of application measuring wheel U = 200 mm

|   |                     |  |
|---|---------------------|--|
|  | LMSxxxKH: (even)    | greased metal, steel profiles, painted surfaces, plastics, paper, pasteboard, wood, textiles, leather, wire. |
|  | LMSxxxKG: (fluted)  | greased metal, painted surfaces, plastics, paper, pasteboard, wood, textiles, glass, flooring.               |
|  | LMSxxxNG: (pimpled) | plastics, paper, pasteboard, wood, textiles, fleece, carpet, cable measuring.                                |

## More information

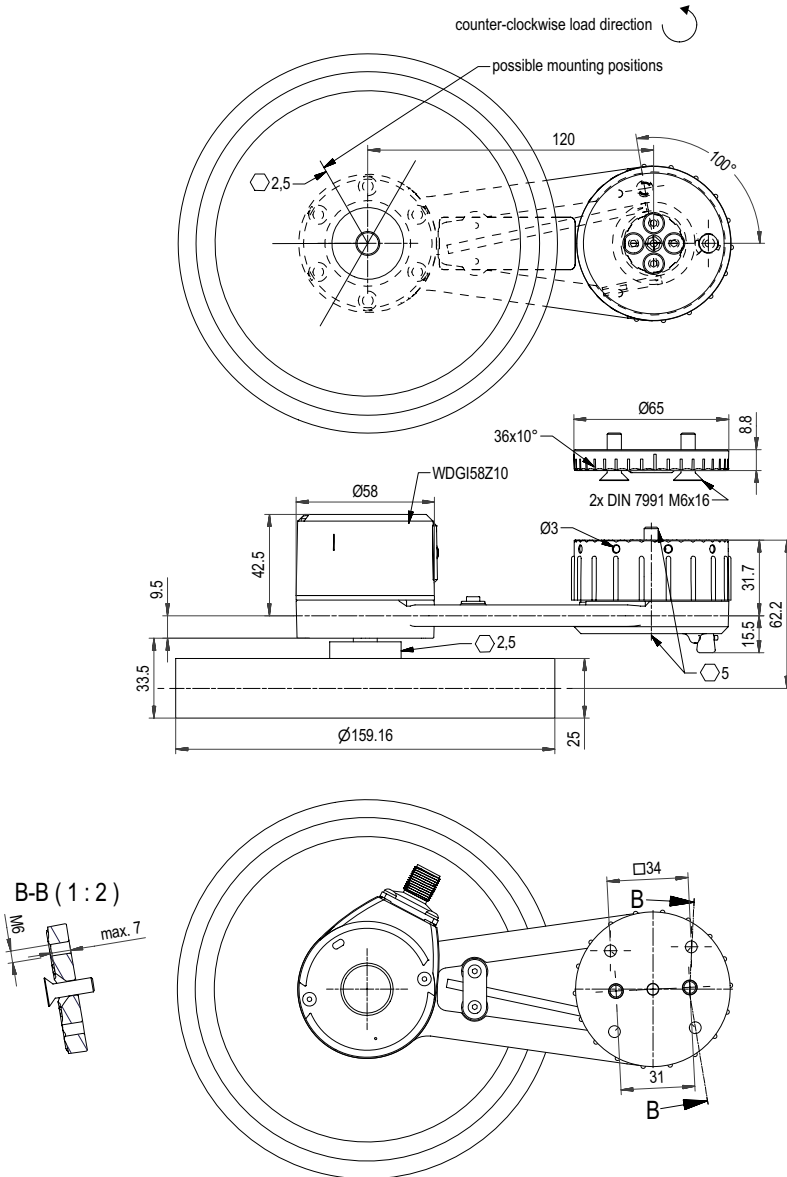
General technical data and safety incremental encoders

[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

Options

[www.wachendorff-automation.com/acc](http://www.wachendorff-automation.com/acc)

Sensor-connector (M12x1) SC, 8-pin



Description

SC8 radial, 8-pin, connector connected to encoder housing

| Assignment            |                    |
|-----------------------|--------------------|
|                       | SC8                |
|                       | 8-pin              |
|                       |                    |
| Circuit               | F05, R05, F24, R24 |
| GND                   | 1                  |
| +UB                   | 2                  |
| A                     | 3                  |
| B                     | 4                  |
| N                     | 5                  |
| Light reserve warning | -                  |
| A inv.                | 6                  |
| B inv.                | 7                  |
| N inv.                | 8                  |
| n. c.                 | -                  |
| Shield                | -                  |

Order No.:



| mm/pulses          | Pulses | LMSMA25100024KH10 | LMSMA25100005KH10 | LMSMA25100024KG10 | LMSMA25100005KG10 | LMSMA25100024NG10 | LMSMA25100005NG10 | LMSMA25010024KH10 | LMSMA25010005KH10 | LMSMA25010024KG10 | LMSMA25010005KG10 | LMSMA25010024NG10 | LMSMA25010005NG10 | LMSMA25004024KH10 | LMSMA25004005KH10 | LMSMA25004024KG10 | LMSMA25004005KG10 | LMSMA25004024NG10 | LMSMA25004005NG10 | LMSMA25002024KH10 | LMSMA25002005KH10 | LMSMA25002024KG10 | LMSMA25002005KG10 | LMSMA25002024NG10 | LMSMA25002005NG10 |
|--------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1.0                | 500    | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 0.1                | 5000   |                   |                   |                   |                   | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 0.04               | 12500  |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |                   |                   |
| 0.02               | 25000  |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |
| VDC                |        |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 10 up to 30 HTL    |        | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   |
| 4.75 up to 5.5 TTL |        |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   | •                 |                   |                   |
| Range of appl.*    |        | 1                 | 1                 | 2                 | 2                 | 3                 | 3                 | 1                 | 1                 | 2                 | 2                 | 3                 | 3                 | 1                 | 1                 | 2                 | 2                 | 3                 | 3                 | 1                 | 1                 | 2                 | 2                 | 3                 | 3                 |

\* Range of application measuring wheel U = 500 mm

- 1 LMSxxxKH Greased metal, steel profiles, painted surfaces, plastics, paper, pasteboard, wood, textiles, leather, wire.
- 2 LMSxxxKG Greased metal, painted surfaces, plastics, paper, pasteboard, wood, textiles, glass, flooring.
- 3 LMSxxxNG Plastics, paper, pasteboard, wood, textiles, fleece, carpet, cable measuring.

For further assistance please feel free to contact us.

We would be happy to help you to find the suitable resolution, measurement wheel, cable length or other accessory to optimize your application.



For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
[http://www.wachendorff-automation.com/distributors\\_worldwide.html](http://www.wachendorff-automation.com/distributors_worldwide.html)



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