



# Datasheet

## Length measurement system LMSLA12

[www.wachendorff-automation.com/lmsla12](http://www.wachendorff-automation.com/lmsla12)

### 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 LMSLA12



- Complete system, consisting of incremental encoder, linear equalization shaft encoder holder and measuring wheel
- Excellent print layout, thanks to a resolution of 0.008 mm/pulse
- Various measuring wheels for different surfaces available
- High service life, thanks to highest bearing loads and parallel guided free from backlash

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### Resolution WDGI 58B10 with

|            |                                |
|------------|--------------------------------|
| 200 ppr:   | 1 pulse/mm = 1.0 mm/pulse      |
| 2000 ppr:  | 10 pulses/mm = 0.1 mm/pulse    |
| 5000 ppr:  | 25 pulses/mm = 0.04 mm/pulse   |
| 25000 ppr: | 125 pulses/mm = 0.008 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 |
|----------------------|----------|

#### Encoder holder

|                               |          |
|-------------------------------|----------|
| Adjustable prestressing force | 25 N     |
| Spring travel                 | 8.5 mm   |
| Material                      | Aluminum |

### 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. 570 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) Plastic, painted surfaces, paper, paste-board, wood, metal, textiles.



LMSxxxKG:  
(fluted) Plastic, painted surfaces, paper, paste-board, wood, metal, textiles.



LMSxxxNG:  
(pimpled) Textiles.

### More information

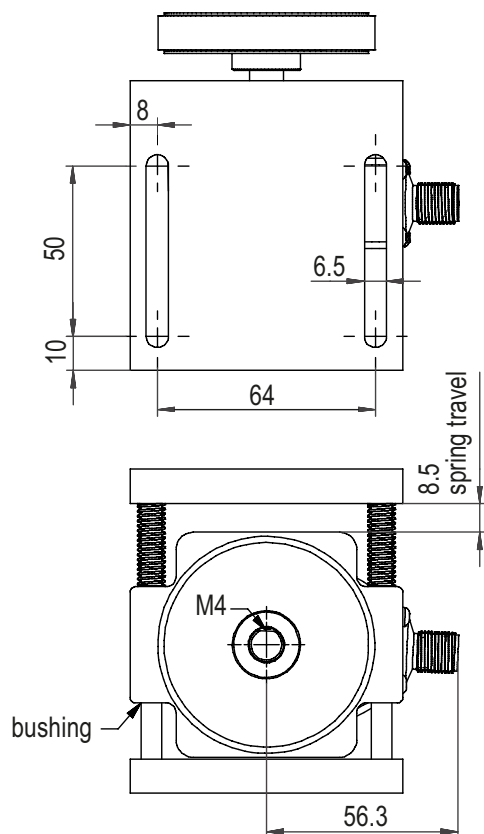
General technical data

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

Options

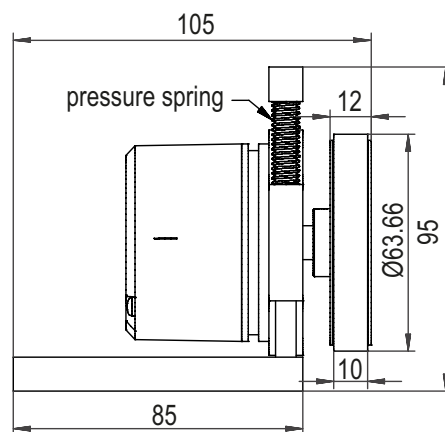
[www.wachendorff-automation.com/acc](http://www.wachendorff-automation.com/acc)

## Sensor-connector (M12x1) SC, 8-pin



### Note:

if necessary, for individual positioning of the encoder, please remove the measuring wheel.



## Description

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

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

|                    |        | LMSLA12100024KH10 | LMSLA12100005KH10 | LMSLA12100024KG10 | LMSLA12100005KG10 | LMSLA12100024NG10 | LMSLA12010005NG10 | LMSLA12010024KH10 | LMSLA12010005KH10 | LMSLA12010024KG10 | LMSLA12010005KG10 | LMSLA12010024NG10 | LMSLA12004005NG10 | LMSLA12004024KH10 | LMSLA12004005KH10 | LMSLA12004024KG10 | LMSLA12004005KG10 | LMSLA12000824NG10 | LMSLA12000824KH10 | LMSLA12000805KH10 | LMSLA12000824KG10 | LMSLA12000805KG10 | LMSLA12000824NG10 | LMSLA12000805NG10 |   |
|--------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|
| mm/pulses          | Pulses |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |   |
| 1,0                | 200    | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |   |
| 0,1                | 2000   |                   |                   |                   |                   |                   |                   | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |   |
| 0,04               | 5000   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | •                 | •                 | •                 | •                 | •                 | •                 |                   |                   |                   |                   |                   |                   |   |
| 0,008              | 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 |

1 LMSxxxKH Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles.  
2 LMSxxxKG Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles.  
3 LMSxxxNG Textiles.

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)

# CREKEN

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