## LMC <br> LOKE Measuring Systems

## Laser Distance Sensor RHU-LMC=J-0050-x

## Precise - Robust - Reflectorless

- Multi-Bus
- Measuring distances with millimeter accuracy
- Accurate positioning
- Motion detection / Contour detection
- Level gauging
- Measures surfaces up to $1200^{\circ} \mathrm{C}$

Width measurement without additional equipment

The KHU-LMC-J-0050-x is an opto-electronic distance measuring module for industrial application. The device uses a contact less measurement technique based on comparative phase measurement with amplitude modulation. The laser diode has a divergence of 0.6 mrad for measurement with pinpoint accuracy.

The measurement data is available through different interfaces for further processing. A digital switching output and an analogue output ( $4 . .20 \mathrm{~mA}$ ) are also available. The sensor alignment can easily be achieved using the red laser spot.

The sensor is built in a IP 66 housing which is made for heavy industry area. It includes a special dust protection chamber, which keeps the sensor window much longer clean. As ad on, water cooling and air purge nozzles are available.

It comes including a spring cushioned three point bracket for easy and safe installation. 2 different base plates for horizontal and vertical installation are available.


## Technical Data:

| Measuring range: | 0.2-35m for natural, diffuse reflecting surfaces. Max. 150 m possible target board |
| :---: | :---: |
| Repeatability: | $\leq \pm 0,4 \mathrm{~mm}$ on whole measuring range |
| Measuring accuracy: | $\pm 2 \mathrm{~mm}$ |
| Measuring resolution: | Depends on scale factor ( 1 mm at SF 1; 0,01mm at SF 100) |
| Measurement rate: | $1 \mathrm{~Hz} . .5 \mathrm{~Hz}, 10 \mathrm{~Hz}, 50 \mathrm{~Hz}, 100^{* 3}$ |
| Connection | clamp contacts, incl. 2 m cable |
| Laser divergence: | 0.6 mrad |
| Laser classification: | $\leq 1 \mathrm{~mW}$ under IEC 825-1, Laser class 2 (Red light) |
| Protection class: | IP 66 |
| Supply voltage: | $\begin{aligned} & 10-30 \mathrm{VDC} \\ & <1,5 \mathrm{~W} \text { at } 24 \mathrm{VDC} \end{aligned}$ |
| Dimensions: | $255 \times 90 \times 110 \mathrm{~mm}$ (L x W x H) |
| Weight: | approx. $4,3 \mathrm{~kg}$ |
| MTTF | 50.000 h |
| Cable bushing: | Standard lateral; Multiple or custom bushing optional |
| Bracket: | Three-point bracket, spring cushioned for horizontal installation (Type A) Optional for vertical installation (Type B) |
| Operating temperature: | $-10^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{C}\right.$ with heater and $+100^{\circ} \mathrm{C}$ with Water cooling) |

## Features:

- Class 2 Laser for eye safe operation
- Reflector less measurement possible in most cases
- Millimeter accuracy with most surfaces
- A lot of different Interfaces are available like RS232/422 4-20 mA, ProfiBus, CANopen, WLAN etc.
- Dust and waterproof according to IP 66
- Reduced power consumption
- Compact housing
- Wide application spectrum

| Type | Interfaces | Additional Specification | Optional |
| :---: | :---: | :---: | :---: |
| KHU-LMC-J-0050-1-1/2 | RS232 / RS422, 4-20 mA, 1 switching out, 1 trigger in |  |  |
| KHU-LMC-J-0050-1M | RS232 \& RS422, 4-20 mA, 3 switching out, 1 trigger in |  | 50 Hz |
| KHU-LMC-J-0050-2-1/2 | RS232 / RS422, 4-20 mA, 1 switching out, 1 trigger in | 50 Hz |  |
| KHU-LMC-J-0050-3-H | ProfiBus, simple Protocol, Addressing via DIP switches |  |  |
| KHU-LMC-J-0050-3 | ProfiBus, SSI, 2 switching Outputs | 50 Hz |  |
| KHU-LMC-J-0050-4 | EtherNet, 1 switching out, 1 trigger in | Webserver | $50 \mathrm{~Hz}, 4 \mathrm{x}$ I/O |
| KHU-LMC-J-0050-5 | Wireless LAN, 1 switching out, 1 trigger in | Webserver | $50 \mathrm{~Hz}, 4 \mathrm{x}$ I/O |
| KHU-LMC-J-0050-x-100 | 100 Hz output rate |  |  |
| KHU-LMC-J-0050-X | Other interfaces on available on request |  |  |

## Options:

- Exchange Window, red or grey
- Double long front tube for better dust and spray material protection
- Water cooling for temp. up to $+100^{\circ} \mathrm{C}$
- Heat shield
- Air Purge
- Heating for Temperatures down to $-40^{\circ} \mathrm{C}$
- Master slave configuration with signal processing at the master sensor. F.e used for width measurement (only Ethernet and WLan Types)
- 3 switching outputs
- Plug versions
- Custom made outputs, interfaces and housings


## Bracket Types and Dimensions:



Type B:


Type A: (standard)


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