Příloha 1

Micro – Epsilon

LD 1610 - 50
### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>LD 1610-4</th>
<th>LD 1610-10</th>
<th>LD 1610-20</th>
<th>LD 1610-50</th>
<th>LD 1610-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>4mm</td>
<td>10mm</td>
<td>20mm</td>
<td>50mm</td>
<td>100mm</td>
</tr>
<tr>
<td>Start of measuring range</td>
<td>22mm</td>
<td>40mm</td>
<td>55mm</td>
<td>115mm</td>
<td>170mm</td>
</tr>
<tr>
<td>Linearity</td>
<td>±3µm</td>
<td>±5µm</td>
<td>±10µm</td>
<td>±20µm</td>
<td>±30µm</td>
</tr>
<tr>
<td>Resolution (dynamic)</td>
<td>2.6µm</td>
<td>6.5µm</td>
<td>13.5µm</td>
<td>32.5µm</td>
<td>65µm</td>
</tr>
<tr>
<td>Resolution (static)</td>
<td>0.2µm</td>
<td>0.5µm</td>
<td>1µm</td>
<td>2.5µm</td>
<td>6µm</td>
</tr>
<tr>
<td>Spot diameter</td>
<td>0.3mm</td>
<td>0.6mm</td>
<td>0.9mm</td>
<td>1.5mm</td>
<td>1.5mm</td>
</tr>
<tr>
<td>Frequency response</td>
<td>10kHz (-3dB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light source</td>
<td>laser, wavelength 670nm, red</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laser safety class</td>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>10 g ... 1kHz (sensor, 20g option)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation temperature</td>
<td>0º ... +50ºC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20º ... +70ºC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further measuring ranges on request:

1. Measurement on white target with 10kHz
2. Measurement on white target with 20Hz

### Additional Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>LD 1630-4</th>
<th>LD 1630-10</th>
<th>LD 1630-20</th>
<th>LD 1630-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>4mm</td>
<td>10mm</td>
<td>20mm</td>
<td>50mm</td>
</tr>
<tr>
<td>Start of measuring range</td>
<td>22mm</td>
<td>40mm</td>
<td>55mm</td>
<td>115mm</td>
</tr>
<tr>
<td>Linearity</td>
<td>±3µm</td>
<td>±5µm</td>
<td>±10µm</td>
<td>±20µm</td>
</tr>
<tr>
<td>Resolution (dynamic)</td>
<td>2.6µm</td>
<td>6.5µm</td>
<td>13.5µm</td>
<td>32.5µm</td>
</tr>
<tr>
<td>Resolution (static)</td>
<td>0.2µm</td>
<td>0.5µm</td>
<td>1µm</td>
<td>2.5µm</td>
</tr>
<tr>
<td>Spot diameter</td>
<td>0.3mm</td>
<td>0.6mm</td>
<td>0.9mm</td>
<td>1.5mm</td>
</tr>
<tr>
<td>Frequency response</td>
<td>100kHz (-3dB)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light source</td>
<td>laser, wavelength 670nm, red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laser safety class</td>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>5g ... 1kHz (sensor, 20g option)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation temperature</td>
<td>0º ... +40ºC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-30º ... +75ºC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further measuring ranges on request:

1. Measurement on white target with 100kHz
2. Measurement on white target with 230Hz

### Controller Specifications

- **Displacement**: ±10V (option 0 – 10V / 0 – 5V; 4 ... 20mA)
- **Impedance**: approx. 0 Ohm (10mA max.)
- **Tilt**: with 30º object inclination (axis A); approx. 0.5% (white target)
- **Cut off frequency**: DC ... 1kHz / 100kHz
- **Temperature drift**: 0.02 % /°C FSO
- **Intensity**: 0V ... 10V
- **Digital output**: Ethernet (optional), TCP/IP, factory default IP 192.168.122.245 (frequency response 1 - 30kHz)
  - **MIN**: +24V when distance < MIN, LED yellow
  - **OK**: +24V when distance > MIN and < MAX, LED green
  - **MAX**: +24V when distance > MAX, LED orange
  - **Error**: +24V, LED red
- **Switching hysteresis**: approx. 0.5 % FSO
- **Ambient light**: 20,000 LUX
- **Life time**: 50,000h laser diode
- **Isolation voltage**: 2000V DC, 0V
- **Humidity**: up to 90% RH
- **Protection class**: sensor: IP 64, controller: IP 40
- **Power supply**: +24V DC / 200mA (10 ... 30V)
- **Connector**: 25 pin Sub D male connector
- **Cable length (standard)**: 2m
Příloha 2

RTM, s.r.o.

1000T 150
### Technická specifikace

<table>
<thead>
<tr>
<th>Model</th>
<th>1000T 20.5</th>
<th>1000T 115</th>
<th>1000T 150</th>
<th>1000T 200</th>
<th>1000T 250</th>
<th>1000T 450</th>
<th>1000T 750</th>
</tr>
</thead>
<tbody>
<tr>
<td>Měřicí rozsah</td>
<td>16-25 mm</td>
<td>100-130 mm</td>
<td>100-200 mm</td>
<td>100-300 mm</td>
<td>100-400 mm</td>
<td>200-700 mm</td>
<td>400-1100 mm</td>
</tr>
<tr>
<td>Střední vzdálenost</td>
<td>20.5 mm</td>
<td>115 mm</td>
<td>150 mm</td>
<td>200 mm</td>
<td>250 mm</td>
<td>450 mm</td>
<td>750 mm</td>
</tr>
<tr>
<td>Rozlišení**</td>
<td>&lt; 0,8 μm</td>
<td>&lt; 2 μm</td>
<td>&lt; 10 μm</td>
<td>&lt; 50 μm</td>
<td>&lt; 80 μm</td>
<td>100 μm</td>
<td>500 μm</td>
</tr>
<tr>
<td>Linearita*</td>
<td>± 0,05 %**</td>
<td>± 1 %**</td>
<td>± 0,05 %**</td>
<td>± 0,1 %**</td>
<td>± 0,07 %**</td>
<td>± 0,05 %**</td>
<td>± 0,1 %**</td>
</tr>
<tr>
<td>Opakovatelnost*</td>
<td>± 0,8 μm</td>
<td>&lt; 2 μm</td>
<td>&lt; 10 μm</td>
<td>&lt; 50 μm</td>
<td>&lt; 80 μm</td>
<td>100 μm</td>
<td>500 μm</td>
</tr>
<tr>
<td>Velikost laser, bodu</td>
<td>≤ 0,1 mm</td>
<td>≤ 1 mm</td>
<td>≤ 1 mm</td>
<td>≤ 2 mm</td>
<td>≤ 2 mm</td>
<td>≤ 2 mm</td>
<td>≤ 3 mm</td>
</tr>
<tr>
<td>Teplotní odchylka</td>
<td>2000 / 100 Hz</td>
<td>± 0,03 %</td>
<td>z měřicího rozsahu / °C</td>
<td>2000 / 100 Hz</td>
<td>± 0,03 %</td>
<td>z měřicího rozsahu / °C</td>
<td>2000 / 100 Hz</td>
</tr>
<tr>
<td>Provozní napětí</td>
<td>136 x 138 x 50</td>
<td>Příkon</td>
<td>Provozní teplota</td>
<td>Druh krytí</td>
<td>Rozměry v mm</td>
<td>Hmotnost</td>
<td></td>
</tr>
<tr>
<td>Příkon</td>
<td>1-9 VDC/ 14 bit</td>
<td>4-20 mA / 14 bit</td>
<td>24 VDC ± 10 %</td>
<td>Max. 4,5 W</td>
<td>0 bis + 50 °C</td>
<td>IEC IP 65</td>
<td></td>
</tr>
<tr>
<td>Provozní teplota</td>
<td>136 x 146 x 50</td>
<td>1600 g</td>
<td>IEC IP 65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Rozlišení, presnost a linearita platí při statických měření na bílém papíře. Proto jsou možné malé odchylky při měření jiných ploch.
** Úsudek platí pro digitální výstup.
HT/HHT - verze má šířku povrch do 1000/1500°C, standardní verze měří do 450°C.
Všechny modely jsou vybaveny dílem výběru 5/10 - volitelná výběr 1/10 kHz.
Všechny modely mohou být volitelně vybaveny RS-422/Ethernet rozhraním.

### Aplikace laserového senzoru - měření tloušťky

![Triangulační laserový senzor](image-url)
Příloha 3

Micro – Epsilon

scanCONTROL 2610 – 100
<table>
<thead>
<tr>
<th>Model</th>
<th>scanCONTROL</th>
<th>20x0/29x0-25</th>
<th>26x0/29x0-50</th>
<th>26x0/29x0-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-axis (height)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start of measuring range</td>
<td>Start of measuring range</td>
<td>53.5mm</td>
<td>70mm</td>
<td>190mm</td>
</tr>
<tr>
<td>Midrange</td>
<td>Midrange</td>
<td>66mm</td>
<td>95mm</td>
<td>240mm</td>
</tr>
<tr>
<td>End of measuring range</td>
<td>End of measuring range</td>
<td>78.5mm</td>
<td>120mm</td>
<td>290mm</td>
</tr>
<tr>
<td>Start of measuring range</td>
<td>Start of measuring range</td>
<td>53mm</td>
<td>65mm</td>
<td>125mm</td>
</tr>
<tr>
<td>End of measuring range</td>
<td>End of measuring range</td>
<td>70mm</td>
<td>125mm</td>
<td>390mm</td>
</tr>
<tr>
<td>Linearity (3σ)</td>
<td>±0.16% FSO</td>
<td>±0.16% FSO</td>
<td>±0.16% FSO</td>
<td>±0.20% FSO FSO</td>
</tr>
<tr>
<td>Reference resolution</td>
<td>2μm</td>
<td>4μm</td>
<td>12μm</td>
<td></td>
</tr>
</tbody>
</table>

| x-axis (width)            |             |              |              |               |
| Start of measuring range  | Start of measuring range | 23.4mm      | 42mm         | 83.1mm        |
| Midrange                  | Midrange    | 25mm         | 50mm         | 100mm         |
| End of measuring range    | End of measuring range | 29.1mm      | 58mm         | 120.8mm       |
| Start of measuring range  | Start of measuring range | 23.2mm      | 40mm         | 58.5mm        |
| End of measuring range    | End of measuring range | 29.3mm      | 60mm         | 143.5mm       |
| Resolution x-axis         | standard    | up to 200Hz  | up to 200Hz  |               |
| Profile frequency         | Highspeed 2650 | up to 4,000Hz | up to 2,000Hz |               |

| Interfaces |             |              |              |               |
| Multi function port       | Ethernet GigE-Vision | Output of measurement values | Sensor control | Profile data transmission |
|                         | Digital inputs | Mode switching | Encoder | Trigger |
| RS422 (half-duplex)      | RS422 (ASCI) / Modbus RTU | Output of measurement values | Sensor control | Trigger | Synchronisation |
| Output of measurement values | Ethernet (UDP / Modbus TCP) | Ethernet (UDP / Modbus TCP) | RS422 (ASCI) / Modbus RTU | Ethernet (UDP / Modbus TCP) | Ethernet (UDP / Modbus TCP) |
| Display (LED)             | 1x laser ON/OFF, 1x power/alarstatus |               |               |               |
| Light source              | standard | Semiconductor laser 658nm (red) |               |               |
| optional (only 29x0)      | optional (only 29x0) | Semiconductor laser 405nm (blue) |               |               |
| Aperture angle laser line | 20°        | 25°           | 25°           |               |
| Laser power               | standard | 8mW (class 2M) |               |               |
| optional                  | optional | 20mW (class 3B) |               |               |
| Laser off                 | optional | via external contact |               |               |
| Permissible ambient light (fluorescent light) | 10,000lux |               |               |               |
| Protection class (Sensor) | IP 65     |               |               |               |
| EMC                       | acc. EN 61326-1: 2006-10 | DIN EN 55011: 2007-11 (group 1, class B) | EN 61000-6-2: 2006-03 |               |
| Vibration                 | 2g / 20 ... 500Hz |               |               |               |
| Shock                     | 15g / 6ms  |               |               |               |
| Operating temperature     | 0°C to 45°C |               |               |               |
| Storage temperature       | -20°C to 70°C |               |               |               |
| Dimensions                | 96 x 65 x 33mm |               |               |               |
| Weight sensor (without cable) | 380g |               |               |               |
| Supply                    | 11-30VDC, 24V, 500mA, | IEEE 802.3af class 2, Power over Ethernet |               |               |

* Standard measuring range
* Measuring object: Micro-Epsilon standard object (metallic, diffusely reflecting material)
* According to a one-time averaging across the measuring field (640 points)
* RS422 interface, programmable as serial interface or input for triggering / synchronisation
* Only with Output Unit
* FSO = Full scale output
Příloha 4

RTM, s.r.o.

RF 620 HS/DHS 200
### Technická specifikace:

<table>
<thead>
<tr>
<th>Model</th>
<th>35</th>
<th>65</th>
<th>110</th>
<th>200</th>
<th>300</th>
<th>650</th>
<th>1450</th>
<th>C-7</th>
<th>C-18</th>
<th>C-35</th>
<th>C-65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pracovní rozsah v ose Z, mm</td>
<td>35</td>
<td>65</td>
<td>110</td>
<td>200</td>
<td>300</td>
<td>650</td>
<td>1450</td>
<td>7</td>
<td>18</td>
<td>35</td>
<td>65</td>
</tr>
<tr>
<td>Začátek měřicího rozsahu (SMR), mm</td>
<td>60</td>
<td>50</td>
<td>125</td>
<td>125</td>
<td>165</td>
<td>450</td>
<td>655</td>
<td>30</td>
<td>60</td>
<td>80</td>
<td>115</td>
</tr>
<tr>
<td>Konc měřicího rozsahu (EMR), mm</td>
<td>95</td>
<td>115</td>
<td>235</td>
<td>325</td>
<td>465</td>
<td>1100</td>
<td>2105</td>
<td>37</td>
<td>78</td>
<td>115</td>
<td>180</td>
</tr>
<tr>
<td>Lineárit v ose Z</td>
<td>≤ 0.1...0.15% z rozsahu v ose Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pracovní rozsah v ose X, mm</td>
<td>SMR</td>
<td>20</td>
<td>35</td>
<td>45</td>
<td>65</td>
<td>125</td>
<td>190</td>
<td>380</td>
<td>7</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>EMR</td>
<td>30</td>
<td>55</td>
<td>70</td>
<td>135</td>
<td>240</td>
<td>420</td>
<td>1000</td>
<td>8</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>Lineárit v ose X</td>
<td>0.2% z rozsahu v ose X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rozdíl v ose X, bodů</td>
<td>128 nebo 256 nebo 512 nebo 1024</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Výzková rychlost pro celý rozsah</td>
<td>HS - 250 Hz (profíl/sec), DHS - 500 Hz (profíl/sec)</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Max. četnost</td>
<td>HS</td>
<td>3250 profíl/sec, 3328000 bodů/sec</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>DHS</td>
<td>6510 profíl/sec, 6666240 bodů/sec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typ laseru</td>
<td>max 15 mW, vlnová délka 660 nm</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Výstupní signál</td>
<td>digitální</td>
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</tr>
<tr>
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<td>analogový</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Napájení (V)</td>
<td>9...36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Příkon (W)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Třída ochrany</td>
<td>IP67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provozní teplota (°C)</td>
<td>-10...+55 (-30...+55 pro snímače s integrovaným vyhříváním)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hmotnost bez kabelu (g)</td>
<td>450</td>
<td>450</td>
<td>600</td>
<td>600</td>
<td>700</td>
<td>2000</td>
<td>2500</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Rozměry, obrázek č.</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

Poznámka: RF620HS-650 scanner obsahuje vodou chladičí systém pro nasazení ve vysokých teplotách a čištění optiky vzduchem

---

**Specifikace snímače: RF620HS(DHS)-LL-SS-OUT-IN-LM-CG-M-H**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Popis</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL</td>
<td>pracovní rozsah Z (110 nebo 250), mm</td>
</tr>
<tr>
<td>SS</td>
<td>typ sérového rozhraní (RS485 (485) nebo Ethernet (ET))</td>
</tr>
<tr>
<td>OUT</td>
<td>attribut ukazující na proudovou smyčku (I) nebo (U) napěťový výstup</td>
</tr>
<tr>
<td>TTL</td>
<td>aktivační vstup (vstup synchronizace)</td>
</tr>
<tr>
<td>LM</td>
<td>modulován laser je používán</td>
</tr>
<tr>
<td>CC</td>
<td>kabelová vývodka – CG nebo konektor - CC (Binder 702, IP67)</td>
</tr>
<tr>
<td>M</td>
<td>délka kabelu v metrech</td>
</tr>
<tr>
<td>H</td>
<td>snímač s integrovaným vyhříváním</td>
</tr>
</tbody>
</table>

Například: RF620DHSC-65-ET-I-CG-5 DHS scanner, kompaktní provedení, s Z rozsahem 65 mm, výstup Ethernet, dva 4...20mA výstupy k dispozici, kabelová vývodka, 5m délka kabelu.
Příloha 5

Micro – Epsilon

ODC 2520–46
<table>
<thead>
<tr>
<th>Modell</th>
<th>ODC 2520</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>46mm</td>
</tr>
<tr>
<td>Smallest diameter or gap</td>
<td>typ. ≥0.5mm</td>
</tr>
<tr>
<td>Distance light source - receiver (free space)</td>
<td>with mounting rail 100 ... 300mm; without mounting rail up to approx. 2m</td>
</tr>
<tr>
<td>Distance (target to receiver)</td>
<td>20mm, max. 1500 ... 2000mm</td>
</tr>
<tr>
<td>Linearity (3σ)</td>
<td>≤ 12μm</td>
</tr>
<tr>
<td>Digital resolution</td>
<td>1μm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>≤5μm</td>
</tr>
<tr>
<td>Measuring rate</td>
<td>2.5kHz</td>
</tr>
<tr>
<td>Light source</td>
<td>semiconductor laser 670nm (red), laser class 1M (P_{max} 2mW)</td>
</tr>
<tr>
<td>Analogue output</td>
<td>0 ... 10V not electrically isolated, 14Bit D/A</td>
</tr>
<tr>
<td>Digital output</td>
<td>RS 422; max. 4 MBaud, full-duplex, not electrically isolated</td>
</tr>
<tr>
<td>EtherCAT</td>
<td></td>
</tr>
<tr>
<td>Switching outputs</td>
<td>2 outputs, selectable for error or limit values, not electrically isolated</td>
</tr>
<tr>
<td>24V logic (H/L), High level depends to operating voltage</td>
<td></td>
</tr>
<tr>
<td>In/Outs</td>
<td>Zeroing / mastering, reset to factory setting; not electrically isolated, 24 V logic (H/L), High level depends to operating voltage</td>
</tr>
<tr>
<td>TrigIn / SyncIn / symmetrical SyncOut, RS422 level, load resistance (120 Ohm)</td>
<td></td>
</tr>
<tr>
<td>and direction switchable via software, not electrically isolated</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>15g / 6ms</td>
</tr>
<tr>
<td>Vibration</td>
<td>2g / 20 ... 500Hz</td>
</tr>
<tr>
<td>Operation temperature</td>
<td>0 ... 50°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20 ... 70°C</td>
</tr>
<tr>
<td>Power supply</td>
<td>+24VDC (11 ... 30VDC), &lt; 1A</td>
</tr>
<tr>
<td>Connector</td>
<td>receiver</td>
</tr>
<tr>
<td>3-pin connector M8 for supply of the light source, 14-pin connector M16 for power supply and signals</td>
<td></td>
</tr>
<tr>
<td>Display LEDs</td>
<td>receiver</td>
</tr>
<tr>
<td>Power on, Status, Speed, Link / activity</td>
<td></td>
</tr>
<tr>
<td>Protection class</td>
<td>receiver / light source</td>
</tr>
<tr>
<td>IP 64</td>
<td></td>
</tr>
<tr>
<td>Measuring programs</td>
<td>Edge light/dark; edge dark/light (outer) diameter / width incl. centre gap / (inner diameter) incl. centre Any segment emitter incl. centre</td>
</tr>
<tr>
<td>Functions</td>
<td>averaging, filter, Threshold adjustment for transparent targets; edge detection and measurement direction reversible; current measuring value, Maximum, Minimum, Peak to Peak; edge / level / software triggering synchronization, counting function</td>
</tr>
<tr>
<td>Operation, measured value display</td>
<td>Web interface for parametrisation and display (incl. measurement server for transmitting multiple measuring values to the PC)</td>
</tr>
</tbody>
</table>

All specifications are measured at a constant temperature of 20 °C, sensor in continuous operation.

1 Distance light source - receiver 300mm, distance target - receiver 20mm and 50mm. mode: edge light/dark
2 Measured at static noise for 3 min.
Příloha 6

RTM, s.r.o.

RF 656
### Technická specifikace

<table>
<thead>
<tr>
<th>Model</th>
<th>Jednotka</th>
<th>Hodnota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Měřicí oblast</td>
<td>mm</td>
<td>± 5 x 25</td>
</tr>
<tr>
<td>Vzdálenost mezi vysílačem a přijímačem L</td>
<td>mm</td>
<td>210</td>
</tr>
<tr>
<td>Přesnost měření&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>µm</td>
<td>± 2</td>
</tr>
<tr>
<td>Maximální vzorkovací frekvence</td>
<td>Hz</td>
<td>800</td>
</tr>
<tr>
<td>Minimální detekovatelný objekt</td>
<td>mm</td>
<td>0,1</td>
</tr>
<tr>
<td>Zdroj záření</td>
<td></td>
<td>červená LED</td>
</tr>
<tr>
<td>Digitální výstupní signál</td>
<td></td>
<td>RS232 nebo RS485 (max. 460 800 bitů/s)</td>
</tr>
<tr>
<td>Analogový výstupní signál</td>
<td></td>
<td>4...20 mA (zatěžovací odpor &lt;500 Ohm) nebo 0...10 V</td>
</tr>
<tr>
<td>Externí synchronizační vstup</td>
<td></td>
<td>2,4......5 V (CMOS, TTL)</td>
</tr>
<tr>
<td>Logické výstupy</td>
<td></td>
<td>3 výstupy, NPN: max. 100 mA, 40 B</td>
</tr>
<tr>
<td>Napájecí napětí</td>
<td>V</td>
<td>5 (4,5...9) nebo 12 (9....18) nebo 24 (18.....36)</td>
</tr>
<tr>
<td>Příkon</td>
<td>W</td>
<td>1,5</td>
</tr>
<tr>
<td>Stupeň ochrany</td>
<td></td>
<td>IP67</td>
</tr>
<tr>
<td>Provozní teplota</td>
<td>ºC</td>
<td>-10.....+50</td>
</tr>
<tr>
<td>Váha (bez kabelů)</td>
<td>g</td>
<td>200 (vysílač)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 (přijímač)</td>
</tr>
</tbody>
</table>

<sup>1)</sup> Data získaná při měření, při kterém byla drážka paprsku zablokována hranou nože

### Příklad objednávkového kódu snímače

RF656-25-UART-AN-TTL-OUT-VV-CC-mm

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Popis</th>
</tr>
</thead>
<tbody>
<tr>
<td>UART</td>
<td>typ sériového rozhraní (RS232 nebo RS485)</td>
</tr>
<tr>
<td>AN</td>
<td>proudový výstup (I) nebo napěťový výstup (U)</td>
</tr>
<tr>
<td>TTL</td>
<td>spinací vstup (synchronizační vstup)</td>
</tr>
<tr>
<td>OUT</td>
<td>3 logické výstupy</td>
</tr>
<tr>
<td>W</td>
<td>napájecí napětí</td>
</tr>
<tr>
<td>CC</td>
<td>kabelová krytka CG nebo zdírka + kabel CC (Binder 702, IP67, 79-1426-12(15)-08 nebo 79-1426-72 (75)-08)</td>
</tr>
<tr>
<td>mm</td>
<td>délka kabelu v metrech</td>
</tr>
</tbody>
</table>

Příklad: RF656-232-12-CC-5  sériový port RS232, proudový výstup 4...20 mA, napájecí napětí 12 V (9...18V), zdírka + kabel, délka kabelu 5 m