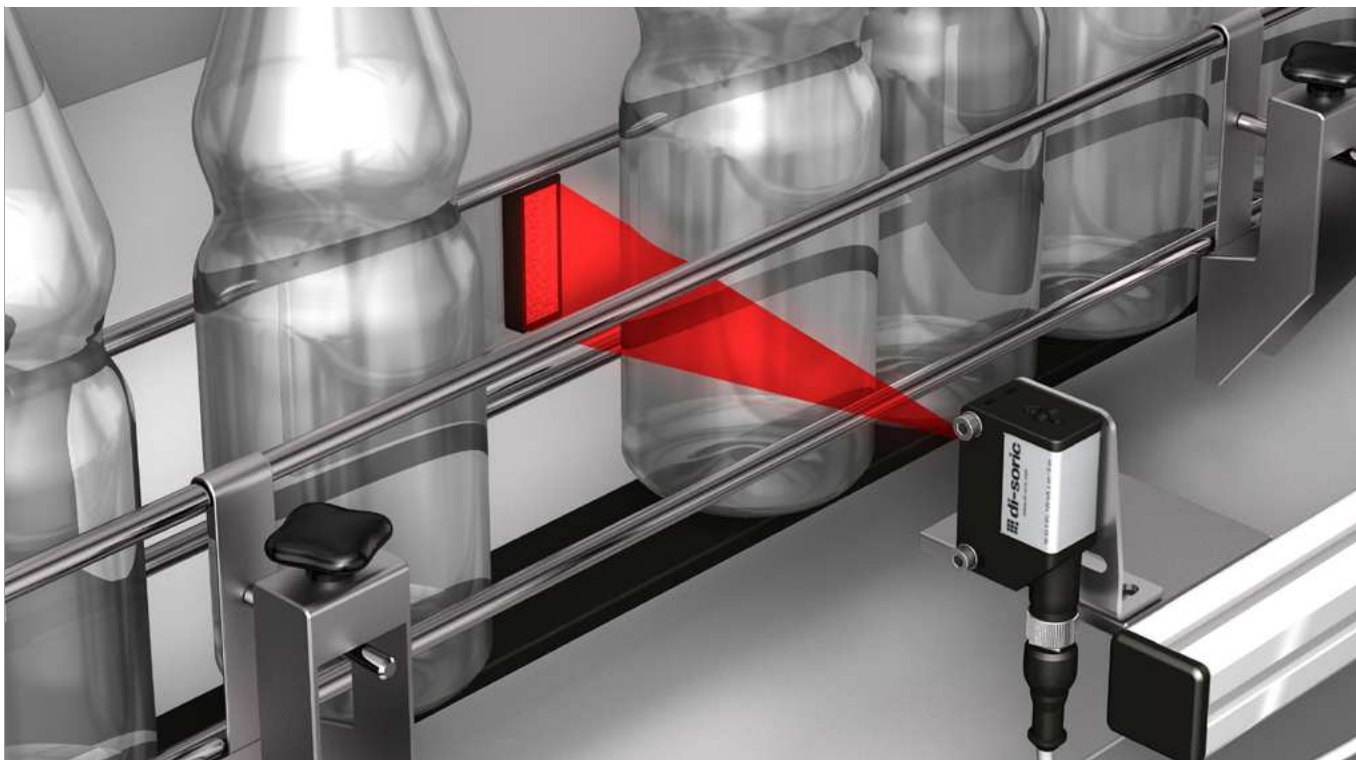


## Light barriers and diffuse sensors



The light barriers and diffuse sensors from di-soric have been developed in several models and functional principles for many task areas in automation technology. The products are suited for fast, secure object detection and stand out for having extremely high functional safety. Various functional principles, sensors, reflection or through-beam sensors are available.



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## O-20 MINIATURE

The very small, powerful light barriers and sensors in the O-20 series can be easily integrated. The devices, which are available as sensors, reflective or through-beam sensors, detect the smallest parts in the entire active zone.

### Technical data (typ.)

**+20 °C, 24 VDC**

For more information, visit

[www.di-soric.com](http://www.di-soric.com)



| Scan width / range,<br>setting range (mm)                                           | Housing design<br>Size (mm)            | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class                                                                                    | Switching output | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description |                                                                                     |
|-------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|--------------------------------|------------------------------|------------------------------------------------------------------------------------------------|------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------|-------------------------------------------------------------------------------------|
| O-20 Miniature Retroreflective energetic diffuse sensors                            |                                        |                                    |                                |                              |                                                                                                |                  |                             |                          |                  |                                          |                                            |                     |  |
|    | 20 to 50                               | 22 x 13<br>x 8.5                   | Potentiometer                  | —                            |  Laser, red   | 1                | pnp, 50 mA<br>NO/NC         | -10 to +55               | 1,000            | Plastic                                  | 2.0 m<br>M8                                | —<br>TK ... /4      | LT 21 K 50 P3<br>LT 21 K 50 P3-K-T4                                                 |
|                                                                                     | 20 to 70                               | 22 x 13<br>x 8.5                   | Potentiometer                  | —                            |  Laser, red   | 1                | pnp, 50 mA<br>NO/NC         | -10 to +55               | 1,000            | Plastic                                  | 2.0 m<br>M8                                | —<br>TK ... /4      | LLT 21 K 70 P3<br>LLT 21 K 70 P3-K-T4                                               |
|   | 45 to 300                              | 22 x 13<br>x 8.5                   | Potentiometer                  | —                            |  Laser, red | 1                | pnp, 50 mA<br>NO/NC         | -10 to +55               | 1,000            | Plastic                                  | 2.0 m<br>M8                                | —<br>TK ... /4      | LT 21 K 300 P3<br>LT 21 K 300 P3-K-T4                                               |
|                                                                                     | O-20 Miniature Retroreflective sensors |                                    |                                |                              |                                                                                                |                  |                             |                          |                  |                                          |                                            |                     |                                                                                     |
|  | 0 to 4,000                             | 22 x 13<br>x 8.5                   | Potentiometer                  | —                            |  Laser, red | 1                | pnp, 50 mA<br>NO/NC         | -10 to +55               | 1,000            | Plastic                                  | 2.0 m<br>M8                                | —<br>TK ... /4      | LT 21 K 4000 P3<br>LT 21 K 4000 P3-K-T4                                             |
|                                                                                     | O-20 Miniature Through-beam sensors    |                                    |                                |                              |                                                                                                |                  |                             |                          |                  |                                          |                                            |                     |                                                                                     |
|  | 0 to 1,000                             | 19 x 12<br>x 8.5                   | —                              | T/R                          |  Laser, red | 1                | pnp, 50 mA<br>NO/NC         | -10 to +55               | 1,000            | Plastic                                  | 2.0 m<br>M8                                | —<br>TK ... /4      | LES 21 K 1000 P3<br>LES 21 K 1000 P3-K-T4                                           |

## O-21 MINIATURE

The very small and efficient light barriers and sensors in the O-21 miniature series with IO-Link can be easily integrated. The retroreflective sensors with background suppression are suited for detecting small and flat objects. The retroreflective sensors feature a high functional reserve.



| Technical data (typ.)       | +20 °C, 24 VDC                                         |
|-----------------------------|--------------------------------------------------------|
| For more information, visit | <a href="http://www.di-soric.com">www.di-soric.com</a> |
|                             |                                                        |
|                             |                                                        |
|                             |                                                        |

|                                                                                     | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output   | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description |
|-------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|--------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------|
| O-21 Miniature Retroreflective energetic diffuse sensors                            |                                           |                             |                                    |                                |                              |             |                    |                             |                          |                  |                                          |                                            |                     |
|   | 0 to 180                                  | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OT21-PS-2C          |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OT21-NS-2C          |
|                                                                                     | 0 to 180                                  | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OT21-PS-0.3T3       |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OT21-NS-0.3T3       |
| O-21 Miniature Retroreflective sensors                                              |                                           |                             |                                    |                                |                              |             |                    |                             |                          |                  |                                          |                                            |                     |
|  | 20 to 1,800                               | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OR21-PS-2C          |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OR21-NS-2C          |
|                                                                                     | 20 to 1,800                               | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OR21-PS-0.3T3       |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OR21-NS-0.3T3       |
| O-21 Miniature Through-beam sensors                                                 |                                           |                             |                                    |                                |                              |             |                    |                             |                          |                  |                                          |                                            |                     |
|  | 0 to 3,000                                | 28.1 x 8.1<br>x 14.4        | IO-Link                            | S                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | PVC 2.0                                  | —                                          | OS21-2C             |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OS21-0.3T3          |
|                                                                                     | 0 to 3,000                                | 28.1 x 8.1<br>x 14.4        | IO-Link                            | E                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OE21-PS-2C          |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OE21-NS-2C          |
|                                                                                     | 0 to 3,000                                | 28.1 x 8.1<br>x 14.4        | IO-Link                            | E                              | red                          |             | pnp, 100 mA<br>NO  | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OE21-PS-0.3T3       |
|                                                                                     |                                           |                             | —                                  |                                |                              |             | nnp, 100 mA,<br>NO |                             |                          |                  |                                          |                                            | OE21-NS-0.3T3       |

| O-21 Miniature Reflection diffuse sensors background suppression                  |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  |                                          |                                            |                     |  |
|-----------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|----------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------|-------------------------------------------------------------------------------------|
|                                                                                   | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output     | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description |                                                                                     |
|  | 15 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OH21-15PS-2C        |                                                                                     |
|                                                                                   | 15                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-15NS-2C        |                                                                                     |
|                                                                                   | 15 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OH21-15PS-0.3-T3    |                                                                                     |
|                                                                                   | 15                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-15NS-0.3T3     |                                                                                     |
|                                                                                   | 50 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OH21-50PS-2C        |                                                                                     |
|                                                                                   | 50                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-50NS-2C        |                                                                                     |
|                                                                                   | 50 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OH21-50PS-0.3T3     |                                                                                     |
|                                                                                   | 50                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-50NS-0.3T3     |                                                                                     |
|                                                                                   | 80 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | PVC,<br>2.0 m                            | —                                          | OH21-80PS-2C        |                                                                                     |
|                                                                                   | 80                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-80NS-2C        |                                                                                     |
|                                                                                   | 80 (10 to 80)                             | 28.1 x 8.1<br>x 14.4        | IO-Link                            | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +60                  | 1,000                    | Plastic          | —                                        | —                                          | OH21-80PS-0.3T3     |                                                                                     |
|                                                                                   | 80                                        |                             | —                                  |                                |                              |             | npn, 100 mA,<br>NO   |                             |                          |                  |                                          |                                            | OH21-80NS-0.3T3     |                                                                                     |

## O-30 UNIVERSAL

The efficient light barriers and sensors in the O-30 Universal series are versatile. With their compact design and mounting hole spacing of 25.4 mm, the sensors can be integrated quickly and easily. The user-friendly and robust devices with short response times and good functional reserves are suited for many applications in packaging technology and assembly and handling technology.



### Technical data (typ.) +20 °C, 24 VDC

For more information, visit [www.di-soric.com](http://www.di-soric.com)

|                                                                                     | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T)/Receiver (R) | Transmission light (clocked) | Laser class | Switching output     | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description  |
|-------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|------------------------------|------------------------------|-------------|----------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|----------------------|
| O-30 Miniature Retroreflective energetic diffuse sensors                            |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  |                                          |                                            |                      |
|    | 10 to 100                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 100 P3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 100 P3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 100 P3-3     |
|  | 10 to 100                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 100 N3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 100 N3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 100 N3-3     |
|  | 0 to 400                                  | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 400 P3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 400 P3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 400 P3-3     |
|  | 0 to 400                                  | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 400 N3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 400 N3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 400 N3-3     |
|  | 0 to 1,000                                | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 1000 P3-T4   |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 1000 P3-K-T3 |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 1000 P3-3    |
|  | 0 to 1,000                                | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OT 31 K 1000 N3-T4   |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OT 31 K 1000 N3-K-T3 |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OT 31 K 1000 N3-3    |
| O-30 Miniature Reflection diffuse sensors background suppression                    |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  |                                          |                                            |                      |
|  | 30 to 200                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OH 31 K 200 P3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OH 31 K 200 P3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OH 31 K 200 P3-3     |
|  | 30 to 200                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OH 31 K 200 N3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OH 31 K 200 N3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OH 31 K 200 N3-3     |
|  | 30 to 400                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | Infrared                     |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OH 30 K 400 P3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OH 30 K 400 P3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OH 30 K 400 P3-3     |
|  | 30 to 400                                 | 31 x 21<br>x 13             | Potenti-<br>ometer                 | –                            | Infrared                     |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 1,000                    | Plastic          | M8                                       | TK ... /4                                  | OH 30 K 400 N3-T4    |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 0.2m/M8                                  | TK ...                                     | OH 30 K 400 N3-K-T3  |
|                                                                                     |                                           |                             |                                    |                              |                              |             |                      |                             |                          |                  | 2.0m                                     | –                                          | OH 30 K 400 N3-3     |

|                                                                                     | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (blocked) | Laser class | Switching output     | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description    |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|----------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|------------------------|---------------------------------------------------------------------------------------|
| O-30 Miniature Retroreflective sensors                                              |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  |                                          |                                            |                        |    |
|    | 50 to 1,500                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 1500 P3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 1500 P3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OR 31 K 1500 P3-3      |                                                                                       |
|    | 50 to 1,500                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 1500 N3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 1500 N3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OR 31 K 1500 N3-3      |                                                                                       |
|   | 400 to 4,000                              | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 4000 P3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 4000 P3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OR 31 K 4000 P3-3      |                                                                                       |
|  | 400 to 4,000                              | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 4000 N3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 4000 N3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OR 31 K 4000 N3-3      |                                                                                       |
|  | 20 to 5,000                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 5000 P3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 5000 P3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OR 31 K 5000 P3-3      |                                                                                       |
|  | 20 to 5,000                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OR 31 K 5000 N3-T4     |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OR 31 K 5000 N3-K-T3   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2 m                                      | —                                          | OR 31 K 5000 N3-3      |                                                                                       |
| O-30 Universal Through-beam sensors                                                 |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  |                                          |                                            |                        |  |
|  | 0 to 20,000                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | pnp, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OES 31 K 20000 P3-T4   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OES 31 K 20000 P3-K-T3 |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OES 31 K 20000 P3-3    |                                                                                       |
|  | 0 to 20,000                               | 31 x 21<br>x 13             | Potenti-<br>ometer                 | —                              | red                          |             | npn, 100 mA<br>NO/NC | -25 to +70                  | 2,000                    | Plastic          | M8                                       | TK ... /4                                  | OES 31 K 20000 N3-T4   |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 0.2 m/M8                                 | TK ...                                     | OES 31 K 20000 N3-K-T3 |                                                                                       |
|                                                                                     |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  | 2.0 m                                    | —                                          | OES 31 K 20000 N3-3    |                                                                                       |

## O-40 STANDARD

The compact light barriers and sensors in the O-40 Standard series are suited for medium ranges in a broad field of application. The sensors are reliable, economic and cost-efficient. The universal slotted-hole fastening makes flexible mounting possible.

**Technical data (typ.)** **+20 °C, 24 VDC**  
For more information, visit [www.di-soric.com](http://www.di-soric.com)



|                                                                                                                                                    | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output                                               | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|----------------------------------------------------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|--------------------------------------------|
| <b>O-40 Standard</b> Retroreflective energetic diffuse sensors  |                                           |                             |                                    |                                |                              |             |                                                                |                             |                          |                  |                                          |                                            |                                            |
|                                                                   | 10 to 600                                 | 38 x 27<br>x 15             | Potential-<br>meter                | —                              | red                          |             | pnp, 100 mA<br>NO<br>pnp, 100 mA<br>NC                         | -25 to +60                  | 500                      | Plastic          | M8                                       | TK ...                                     | OT 6-41 K 0.6 P1-T3<br>OT 6-41 K 0.6 P2-T3 |
|                                                                                                                                                    | 100 to 1,000                              | 41 x 31.5<br>x 16           | Teach<br>Teach<br>Remote<br>teach  | —                              | red                          |             | Push-pull,<br>200 mA<br>NO/NC<br>Push-pull,<br>200 mA<br>NO/NC | -25 to +60                  | 1,000                    | Metal            | M8                                       | TK ...<br>TK ... /4                        | OTT 41 M 1 G3-T3<br>OTT 41 M 1 FG3-T4      |

|                                                                                                                                    |              |                 |                     |   |     |  |                                        |            |     |         |    |        |                                        |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|---------------------|---|-----|--|----------------------------------------|------------|-----|---------|----|--------|----------------------------------------|
| <b>O-40 Standard</b> Retroreflective sensors  |              |                 |                     |   |     |  |                                        |            |     |         |    |        |                                        |
|                                                 | 400 to 4,000 | 38 x 27<br>x 15 | Potential-<br>meter | — | red |  | pnp, 100 mA<br>NC<br>pnp, 100 mA<br>NO | -25 to +60 | 500 | Plastic | M8 | TK ... | OR 6-41 K 4 P1-T3<br>OR 6-41 K 4 P2-T3 |

## O-40E EXTENDED

The devices in the O-40E Extended series for medium ranges have a robust metallic housing with a metallic plug and are used in the detection of standard or small parts. These light barriers detect with LED or with laser variants (laser class 1) that are safe for the eye.

**Technical data (typ.)** **+20 °C, 24 VDC**  
For more information, visit [www.di-soric.com](http://www.di-soric.com)



|                                                                                                                                                               | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked)                                                                   | Laser class | Switching output                         | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------|-------------|------------------------------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------|
| <b>O-40E Extended</b> Reflection diffuse sensors background suppression  |                                           |                             |                                    |                                |                                                                                                |             |                                          |                             |                          |                  |                                          |                                            |                     |
|                                                                            | 30 to 350                                 | 40 x 30<br>x 15             | Potential-<br>meter                | —                              |  Laser, red | 1           | Push-pull,<br>200 mA<br>NO/NC antivalent | -10 to +50                  | 1,000                    | Metal            | M8                                       | TK ... /4                                  | LH 41 M 350 G4L-T4  |



## O-50 METAL

The robust and highly efficient light barriers in the O-50 Metal series work with visible red light LEDs or with laser light that is safe for the eye (laser class 1). They are robust and have a metallic housing and metallic plug. The sensors have maximum functional reserve and are used for long ranges.



| Technical data (typ.)       | +20 °C, 24 VDC                                         |
|-----------------------------|--------------------------------------------------------|
| For more information, visit | <a href="http://www.di-soric.com">www.di-soric.com</a> |

| Scan width / range, setting range (mm) | Housing design Size (mm) | Sensitivity setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output | Ambient temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length, Plug connector | Connection cable (optionally available) | Product description |
|----------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|------------------|--------------------------|--------------------------|------------------|---------------------------------------|-----------------------------------------|---------------------|
|----------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|------------------|--------------------------|--------------------------|------------------|---------------------------------------|-----------------------------------------|---------------------|

### O-50 Metal Retroreflective energetic diffuse sensors



|  |             |              |               |   |            |   |                   |            |       |       |     |          |                       |
|--|-------------|--------------|---------------|---|------------|---|-------------------|------------|-------|-------|-----|----------|-----------------------|
|  | 15 to 150   | 50 x 40 x 15 | Potentiometer | — | red        |   | pnp, 200 mA NO/NC | -10 to +60 | 1,000 | Metal | M12 | VK ...   | OTV 51 M 150 P3K-IBS  |
|  | 100 to 500  |              |               |   |            |   |                   |            |       |       |     |          | OTV 51 M 500 P3K-IBS  |
|  | 100 to 600  | 50 x 40 x 15 | Potentiometer | — | Infrared   |   | pnp, 200 mA NO/NC | -10 to +60 | 1,000 | Metal | M12 | VK ...   | OTV 50 M 600 P3K-IBS  |
|  | 50 to 1,200 |              |               |   |            |   |                   |            |       |       |     |          | OTV 50 M 1200 P3K-IBS |
|  | 75 to 200   | 50 x 40 x 15 | Potentiometer | — | Laser, red | 1 | pnp, 200 mA NO/NC | -10 to +50 | 2,000 | Metal | M12 | VK ...   | LTV 51 M 200 P3K-IBS  |
|  | 100 to 600  |              |               |   |            |   |                   | 500        |       |       |     |          | LTV 51 M 600 P3K-IBS  |
|  | 50 to 500   | 51 x 51 x 17 | +/- buttons   | — | Laser, red | 1 | Push-pull, 100 mA | 0 to +50   | ?     | Metal | M12 | VK .../5 | LVHT52-500G3-B4       |

### O-50 Metal Reflection diffuse sensors background suppression



|  |           |              |               |   |            |   |                         |            |     |       |     |        |                       |
|--|-----------|--------------|---------------|---|------------|---|-------------------------|------------|-----|-------|-----|--------|-----------------------|
|  | 50 to 200 | 50 x 40 x 15 | Potentiometer | — | Laser, red | 1 | Push-pull, 200 mA NO/NC | -10 to +50 | 500 | Metal | M12 | VK ... | LHT 51 M 200 G3-B4 1) |
|  | 50 to 200 | 50 x 40 x 15 | Potentiometer | — | Laser, red | 1 | Push-pull, 200 mA NO/NC | -10 to +50 | 500 | Metal | M12 | VK ... | LLH 51 M 200 G3-B4    |

### O-50 Metal Retroreflective sensors



|  |                 |              |               |   |            |   |                   |            |       |       |     |        |                        |
|--|-----------------|--------------|---------------|---|------------|---|-------------------|------------|-------|-------|-----|--------|------------------------|
|  | 40 to 2,000     | 50 x 40 x 15 | Potentiometer | — | red        |   | pnp, 200 mA NO/NC | -10 to +60 | 1,000 | Metal | M12 | VK ... | ORV 51 M 2000 P3K-IBS  |
|  | 300 to 5,000    | 50 x 40 x 15 | Potentiometer | — | red        |   | pnp, 200 mA NO/NC | -10 to +60 | 1,000 | Metal | M12 | VK ... | ORV 51 M 5000 P3K-IBS  |
|  | 100 to 1,000    |              |               |   |            |   |                   |            |       |       |     |        | LRV 51 M 1000 P3K-IBS  |
|  | 200 to 2,000    | 50 x 40 x 15 | Potentiometer | — | Laser, red | 1 | pnp, 200 mA NO/NC | 0 to +50   | 2,000 | Metal | M12 | VK ... | LRV 51 M 2000 P3K-IBS  |
|  | 1,000 to 10,000 |              |               |   |            |   |                   |            |       |       |     |        | LRV 51 M 10000 P3K-IBS |
|  | 50 to 500       | 50 x 40 x 15 | Potentiometer | — | Laser, red | 1 | pnp, 200 mA NO/NC | 5 to +50   | 750   | Metal | M12 | VK ... | LLRV 51 M 500 P3K-IBS  |

### O-50 Metal Through-beam sensors



|  |             |              |               |   |     |  |                   |            |         |       |     |        |                        |
|--|-------------|--------------|---------------|---|-----|--|-------------------|------------|---------|-------|-----|--------|------------------------|
|  | 0 to 10,000 | 50 x 40 x 15 | Potentiometer | S | red |  | —                 | -25 to +60 |         | Metal | M12 | VK ... | OSV 51 M 10000-IBS     |
|  |             |              |               | E | red |  | pnp, 200 mA NO/NC | -25 to +60 | 100/200 | Metal | M12 | VK ... | OEV 51 M 10000-P3K-IBS |



## O-81 LASER

The laser diffuse sensors in the O-81 Laser series are used for precise detection of objects using red light lasers. The sensors can be adjusted precisely and distinguished by their high resolution and functional reserve. The robust devices with a metallic housing and metallic plug can be operated intuitively by way of potentiometers and NO-NC switches.



### Technical data (typ.)

**+20 °C, 24 VDC**

For more information, visit

[www.di-soric.com](http://www.di-soric.com)

| O-81 Laser Reflection diffuse sensors background suppression                        |                             |                                    |                                |                              |                                                                                                   |                  |                                                                  |                          |                  |                                          |                                            |                     |  |  |
|-------------------------------------------------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|---------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------|-------------------------------------------------------------------------------------|--|
| Scan width / range,<br>setting range (mm)                                           | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class                                                                                       | Switching output | Ambient<br>temperature (°C)                                      | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description |                                                                                     |  |
|    | 40 to 400                   | 76 x 30<br>x 18                    | Potentiometer                  | —                            | <br>Laser, red   | 1                | Antivalent,<br>200 mA<br>NO/NC                                   | -10 to +60               | 1,000            | Metal                                    | M12                                        | VK ... /4           | LHT 81 M 300 G4L-IBS                                                                |  |
|                                                                                     |                             |                                    |                                |                              |                                                                                                   |                  | 200 mA,<br>NO switching<br>output<br>NC alarm output             |                          |                  |                                          |                                            |                     | LHT 81 M 300 G6L-IBS                                                                |  |
|  | 40 to 400                   | 76 x 30<br>x 18                    | Potentiometer                  | —                            | <br>Laser, red | 2                | Push-pull,<br>200 mA, NO/NC,<br>antivalent                       | -20 to +60               | 1,000            | Metal                                    | M12                                        | VK ...              | LHT 81 M 400 G4L-IBS                                                                |  |
|                                                                                     |                             |                                    |                                |                              |                                                                                                   |                  | Push-pull,<br>200 mA, NO<br>switching output,<br>NC alarm output |                          |                  |                                          |                                            |                     | LHT 81 M 400 G6L-IBS                                                                |  |

## O-Q10 MINIATURE

The devices in O-Q10 Miniature series are the first choice for applications that require compact laser through-beam sensors for small parts detection. The robust devices with a metallic housing and metallic plug consistently satisfy the safe laser protection class 1.



### Technical data (typ.)

**+20 °C, 24 VDC**

For more information, visit

[www.di-soric.com](http://www.di-soric.com)

| Scan width / range,<br>setting range (mm)   | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output  | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description     |
|---------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|-------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|-------------------------|
| <b>O-Q10 Miniature</b> Through-beam sensors |                             |                                    |                                |                              |             |                   |                             |                          |                  |                                          |                                            |                         |
|                                             | 0 to 500                    | 10 x 10 x 60                       | —                              |                              | 1           | —                 | 0 to +50                    | 2,000                    | Metal            | M8                                       | TK ...                                     | OLSQ 10 M 500-TSSL      |
|                                             |                             |                                    |                                |                              |             | pnp, 200 mA<br>NC |                             |                          |                  |                                          |                                            | OLEQ 10 M 500 P1K-TSSL  |
|                                             |                             |                                    |                                |                              |             | pnp, 200 mA<br>NO |                             |                          |                  |                                          |                                            | OLEQ 10 M 500 P2K-TSSL  |
|                                             | 0 to 2,000                  | 10 x 10 x 60                       | —                              |                              | 1           | —                 | 0 to +50                    | 2,000                    | Metal            | M8                                       | TK ...                                     | OLSQ 10 M 2000-TSSL     |
|                                             |                             |                                    |                                |                              |             | pnp, 200 mA<br>NC |                             |                          |                  |                                          |                                            | OLEQ 10 M 2000 P1K-TSSL |
|                                             |                             |                                    |                                |                              |             | pnp, 200 mA<br>NO |                             |                          |                  |                                          |                                            | OLEQ 10 M 2000 P2K-TSSL |

## O-M5

The device in the O-M5 series are the smallest diffuse sensors from di-soric in a threaded model. The sensors are distinguished by their precise detection of objects and are ideal for mounting in confined space conditions.

| Technical data (typ.)       | +20 °C, 24 VDC                                         |
|-----------------------------|--------------------------------------------------------|
| For more information, visit | <a href="http://www.di-soric.com">www.di-soric.com</a> |



|                                                       | Scan width / range, setting range (mm) | Housing design Size (mm) | Sensitivity setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output | Ambient temperature (°C) | Switching frequency (Hz) | Housing material    | Cable material/length, Plug connector | Connection cable (optionally available) | Product description |
|-------------------------------------------------------|----------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|------------------|--------------------------|--------------------------|---------------------|---------------------------------------|-----------------------------------------|---------------------|
| <b>O-M5 Retroreflective energetic diffuse sensors</b> |                                        |                          |                                 |                                |                              |             |                  |                          |                          |                     |                                       |                                         |                     |
|                                                       | ... 10                                 | M5                       | —                               | —                              | Red light                    |             | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m                                 | —                                       | OTM05-10PS-2R       |
|                                                       |                                        |                          |                                 |                                |                              |             |                  |                          |                          |                     | M8                                    | TK ...                                  | OTM05-10PS-T3       |
|                                                       | ... 20                                 | M5                       | —                               | —                              | Red light                    |             | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m                                 | —                                       | OTM05-20PS-2R       |
|                                                       |                                        |                          |                                 |                                |                              |             |                  |                          |                          |                     | M8                                    | TK ...                                  | OTM05-20PS-T3       |
|                                                       | ... 50                                 | M5                       | —                               | —                              | Red light                    |             | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m                                 | —                                       | OTM05-50PS-2R       |
|                                                       |                                        |                          |                                 |                                |                              |             |                  |                          |                          |                     | M8                                    | TK ...                                  | OTM05-50PS-T3       |

## O-M8

The compact laser light sensors are used for the detection of small parts and are designed for the safe laser class 1. This avoids injuries to the human eye.

| Technical data (typ.)       | +20 °C, 24 VDC                                         |
|-----------------------------|--------------------------------------------------------|
| For more information, visit | <a href="http://www.di-soric.com">www.di-soric.com</a> |



|                                  | Scan width / range, setting range (mm) | Housing design Size (mm) | Sensitivity setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output | Ambient temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length, Plug connector | Connection cable (optionally available) | Product description    |
|----------------------------------|----------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|------------------|--------------------------|--------------------------|------------------|---------------------------------------|-----------------------------------------|------------------------|
| <b>O-M8 Through-beam sensors</b> |                                        |                          |                                 |                                |                              |             |                  |                          |                          |                  |                                       |                                         |                        |
|                                  | 0 to 2,000                             | M8 x 70                  | —                               | S                              |                              | 1           | —                | 0 to +50                 | 2,000                    | Stainless steel  | M8                                    | TK ...                                  | OLS 08 V 2000-TSSL     |
|                                  |                                        |                          |                                 | E                              |                              |             | pnp, 200 mA NO   |                          |                          |                  |                                       |                                         | OLE 08 V 2000 P2K-TSSL |

## O-M18 STANDARD

The light barriers and diffuse sensors in the O-M18 Standard series are ideal devices for economical and cost-efficient applications. The sensors are alternatively available in a straight model or with 90° angled optics. The plastic or metallic housing is distinguished by its short construction.

### Technical data (typ.)

**+20 °C, 24 VDC**

For more information, visit

[www.di-soric.com](http://www.di-soric.com)


|                                            | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output     | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description                            |
|--------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|----------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|------------------------------------------------|
| <b>O-M18 Standard Through-beam sensors</b> |                                           |                             |                                    |                                |                              |             |                      |                             |                          |                  |                                          |                                            |                                                |
|                                            | 8,000                                     | M18 x 68                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OES 18 FKR 8000 P3-B4<br>OES 18 FMR 8000 P3-B4 |
|                                            | 8,000                                     | M18 x 68                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OES 18 FKR 8000 N3-B4<br>OES 18 FMR 8000 N3-B4 |
|                                            | 8,000                                     | M18 x 58                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OES 18 FKR 8000 P3<br>OES 18 FMR 8000 P3       |
|                                            | 8,000                                     | M18 x 58                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OES 18 FKR 8000 N3<br>OES 18 FMR 8000 N3       |
|                                            | 10,000                                    | M18 x 55                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC | -25 to +55                  | 333                      | Plastic<br>Metal | M12                                      | VK ... /4                                  | OES 18 FK 10000 P3-B4<br>OES 18 FM 10000 P3-B4 |
|                                            | 10,000                                    | M18 x 55                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC | -25 to +55                  | 333                      | Plastic<br>Metal | M12                                      | VK ... /4                                  | OES 18 FK 10000 N3-B4<br>OES 18 FM 10000 N3-B4 |
|                                            | 10,000                                    | M18 x 45                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC | -25 to +55                  | 333                      | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OES 18 FK 10000 P3<br>OES 18 FM 10000 P3       |
|                                            | 10,000                                    | M18 x 45                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC | -25 to +55                  | 333                      | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OES 18 FK 10000 N3<br>OES 18 FM 10000 N3       |

|                                                                 |     |          |               |   |          |  |                      |            |       |                  |               |           |                                            |
|-----------------------------------------------------------------|-----|----------|---------------|---|----------|--|----------------------|------------|-------|------------------|---------------|-----------|--------------------------------------------|
| <b>O-M18 Standard Retroreflective energetic diffuse sensors</b> |     |          |               |   |          |  |                      |            |       |                  |               |           |                                            |
|                                                                 | 320 | M18 x 68 | Potentiometer | — | Infrared |  | pnp, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | M12           | VK ... /4 | OT 18 FKR 320 P3-B4<br>OT 18 FMR 320 P3-B4 |
|                                                                 | 320 | M18 x 68 | Potentiometer | — | Infrared |  | npn, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | M12           | VK ... /4 | OT 18 FKR 320 N3-B4<br>OT 18 FMR 320 N3-B4 |
|                                                                 | 320 | M18 x 58 | Potentiometer | — | Infrared |  | pnp, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | PVC,<br>2.0 m | —         | OT 18 FKR 320 P3<br>OT 18 FMR 320 P3       |
|                                                                 | 320 | M18 x 58 | Potentiometer | — | Infrared |  | npn, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | PVC,<br>2.0 m | —         | OT 18 FKR 320 N3<br>OT 18 FMR 320 N3       |
|                                                                 | 400 | M18 x 55 | Potentiometer | — | Infrared |  | pnp, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | M12           | VK ... /4 | OT 18 FK 400 P3-B4<br>OT 18 FM 400 P3-B4   |
|                                                                 | 400 | M18 x 55 | Potentiometer | — | Infrared |  | npn, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | M12           | VK ... /4 | OT 18 FK 400 N3-B4<br>OT 18 FM 400 N3-B4   |
|                                                                 | 400 | M18 x 45 | Potentiometer | — | Infrared |  | pnp, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | PVC,<br>2.0 m | —         | OT 18 FK 400 P3<br>OT 18 FM 400 P3         |
|                                                                 | 400 | M18 x 45 | Potentiometer | — | Infrared |  | npn, 100 mA<br>NO/NC | -25 to +55 | 1,000 | Plastic<br>Metal | PVC,<br>2.0 m | —         | OT 18 FK 400 N3<br>OT 18 FM 400 N3         |

|                                                                                     | Scan width / range,<br>setting range (mm) | Housing design<br>Size (mm) | Sensitivity<br>setting by means of | Transmitter (T) / Receiver (R) | Transmission light (blocked) | Laser class | Switching output                             | Ambient<br>temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length,<br>Plug connector | Connection cable<br>(optionally available) | Product description                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------|--------------------------------|------------------------------|-------------|----------------------------------------------|-----------------------------|--------------------------|------------------|------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------|
| <b>O-M18 Standard Retroreflective energetic diffuse sensors</b>                     |                                           |                             |                                    |                                |                              |             |                                              |                             |                          |                  |                                          |                                            |    |
|    | 600                                       | M18 x 68                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OT 18 FKR 600 P3-B4<br>OT 18 FMR 600 P3-B4                                            |
|                                                                                     | 600                                       | M18 x 68                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OT 18 FKR 600 N3-B4<br>OT 18 FMR 600 N3-B4                                            |
|    | 600                                       | M18 x 58                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OT 18 FKR 600 P3<br>OT 18 FMR 600 P3                                                  |
|                                                                                     | 600                                       | M18 x 58                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OT 18 FKR 600 N3<br>OT 18 FMR 600 N3                                                  |
|    | 800                                       | M18 x 55                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OT 18 FK 800 P3-B4<br>OT 18 FM 800 P3-B4                                              |
|                                                                                     | 800                                       | M18 x 55                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OT 18 FK 800 N3-B4<br>OT 18 FM 800 N3-B4                                              |
|  | 800                                       | M18 x 45                    | Potentiometer                      | —                              | Infrared                     |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OT 18 FK 800 P3<br>OT 18 FM 800 P3                                                    |
|                                                                                     | 800                                       | M18 x 45                    | Potentiometer                      | —                              | Infrared                     |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OT 18 FK 800 N3<br>OT 18 FM 800 N3                                                    |
| <b>O-M18 Standard Retroreflective sensors</b>                                       |                                           |                             |                                    |                                |                              |             |                                              |                             |                          |                  |                                          |                                            |  |
|  | 3,000                                     | M18 x 83                    | Potentiometer                      | —                              | red                          |             | pnp, 100 mA<br>NO/NC<br>npn, 100 mA<br>NO/NC | -25 to +70                  | 250                      | Metal            | M12                                      | VK ... /4                                  | OR 18-1 M 3000 P4-B4<br>OR 18-1 M 3000 N4-B4                                          |
|  | 3,600                                     | M18 x 68                    | Potentiometer                      | —                              | red                          |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OR 18-1 FKR 3600 P3-B4<br>OR 18-1 FMR 3600 P3-B4                                      |
|                                                                                     | 3,600                                     | M18 x 68                    | Potentiometer                      | —                              | red                          |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OR 18-1 FKR 3600 N3-B4<br>OR 18-1 FMR 3600 N3-B4                                      |
|  | 3,600                                     | M18 x 58                    | Potentiometer                      | —                              | red                          |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OR 18-1 FKR 3600 P3<br>OR 18-1 FMR 3600 P3                                            |
|                                                                                     | 3,600                                     | M18 x 58                    | Potentiometer                      | —                              | red                          |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OR 18-1 FKR 3600 N3<br>OR 18-1 FMR 3600 N3                                            |
|  | 5,700                                     | M18 x 55                    | Potentiometer                      | —                              | red                          |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OR 18-1 FK 5700 P3-B4<br>OR 18-1 FM 5700 P3-B4                                        |
|                                                                                     | 5,700                                     | M18 x 55                    | Potentiometer                      | —                              | red                          |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | M12                                      | VK ... /4                                  | OR 18-1 FK 5700 N3-B4<br>OR 18-1 FM 5700 N3-B4                                        |
|  | 5,700                                     | M18 x 45                    | Potentiometer                      | —                              | red                          |             | pnp, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OR 18-1 FK 5700 P3<br>OR 18-1 FM 5700 P3                                              |
|                                                                                     | 5,700                                     | M18 x 45                    | Potentiometer                      | —                              | red                          |             | npn, 100 mA<br>NO/NC                         | -25 to +55                  | 1,000                    | Plastic<br>Metal | PVC,<br>2.0 m                            | —                                          | OR 18-1 FK 5700 N3<br>OR 18-1 FM 5700 N3                                              |

## O-M18E EXTENDED

The diffuse sensors in the O-M18E Extended series can be used universally and are the first choice in challenging applications. The devices have a robust metallic housing and score points with their high functional reserve and efficient background suppression.

### Technical data (typ.)

**+20 °C, 24 VDC**

For more information, visit

[www.di-soric.com](http://www.di-soric.com)


| Scan width / range, setting range (mm)                                                                                                                       | Housing design Size (mm) | Sensitivity setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output  | Ambient temperature (°C) | Switching frequency (Hz) | Housing material | Cable material/length, Plug connector | Connection cable (optionally available) | Product description |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|-------------------|--------------------------|--------------------------|------------------|---------------------------------------|-----------------------------------------|---------------------|
| <b>O-M18E Extended</b> Reflection diffuse sensors background suppression  |                          |                                 |                                |                              |             |                   |                          |                          |                  |                                       |                                         |                     |
|                                                                             | 30 to 130                | M18 x 80                        | Potentiometer                  | —                            | red         | pnp, 100 mA NO/NC | -25 to +70               | 1,000                    | Metal            | M12                                   | VK ... /4                               | OH 18-1 M 130 P4-B4 |
|                                                                                                                                                              |                          |                                 |                                |                              |             | nnp, 100 mA NO/NC |                          |                          |                  |                                       |                                         | OH 18-1 M 130 N4-B4 |

## O-D4

The devices in the O-D4 series are the smallest diffuse sensors that di-soric offers in a cylindrical model. They guarantee the precise detection of objects and are ideal for mounting everywhere where space is scarce.

### Technical data (typ.)

**+20 °C, 24 VDC**

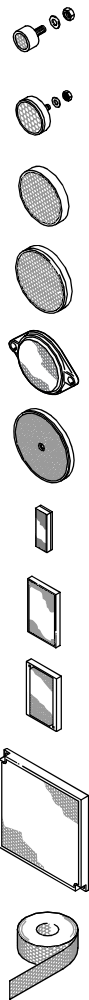
For more information, visit

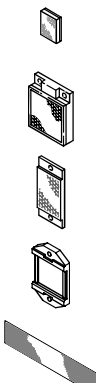
[www.di-soric.com](http://www.di-soric.com)


| Scan width / range, setting range (mm)                                                                                                      | Housing design Size (mm) | Sensitivity setting by means of | Transmitter (T) / Receiver (R) | Transmission light (clocked) | Laser class | Switching output | Ambient temperature (°C) | Switching frequency (Hz) | Housing material    | Cable material/length, Plug connector | Connection cable (optionally available) | Product description |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|--------------------------------|------------------------------|-------------|------------------|--------------------------|--------------------------|---------------------|---------------------------------------|-----------------------------------------|---------------------|
| <b>O-D4</b> Retroreflective energetic diffuse sensors  |                          |                                 |                                |                              |             |                  |                          |                          |                     |                                       |                                         |                     |
|                                                          | ... 10                   | Ø4.0                            | —                              | —                            | Red light   | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m M8                              | —                                       | OTD04-10PS-2R       |
|                                                                                                                                             |                          |                                 |                                |                              |             |                  |                          |                          |                     |                                       | TK ...                                  | OTD04-10PS-T3       |
|                                                                                                                                             | ... 20                   | Ø4.0                            | —                              | —                            | Red light   | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m M8                              | —                                       | OTD04-20PS-2R       |
|                                                                                                                                             |                          |                                 |                                |                              |             |                  |                          |                          |                     |                                       | TK ...                                  | OTD04-20PS-T3       |
|                                                                                                                                             | ... 50                   | Ø4.0                            | —                              | —                            | Red light   | pnp, 100 mA NO   | -25 to +65               | 1000                     | Stainless steel V2A | 2.0 m M8                              | —                                       | OTD04-50PS-2R       |
|                                                                                                                                             |                          |                                 |                                |                              |             |                  |                          |                          |                     |                                       | TK ...                                  | OTD04-50PS-T3       |

## REFLECTORS AND REFLECTIVE FOILS

di-soric offers an extensive range of reflectors and reflective foils for an extensive range of application areas. Design options include reflectors for laser, red light and infrared light sensors. Different models with different fastening options and high-temperature-proof designs round out the product range.

|                                                                                    | Housing design size (mm) | Mounting      | For sensors with red light / infrared light | For sensors with laser light | Temperature stability (°C) | Product description |
|------------------------------------------------------------------------------------|--------------------------|---------------|---------------------------------------------|------------------------------|----------------------------|---------------------|
| <b>Reflectors for infrared and red light</b>                                       |                          |               |                                             |                              |                            |                     |
|  | Ø 10x5.8                 | M3 x 8.4      | ■                                           |                              | -20 to 60                  | R 10 M3             |
|                                                                                    | Ø 19x5.8                 | M3 x 9        | ■                                           |                              | -20 to 60                  | R 21 M3             |
|                                                                                    | Ø 42x7                   | adhesive      | ■                                           |                              | -20 to 60                  | R 42                |
|                                                                                    | Ø 50x8                   | adhesive      | ■                                           |                              | -20 to 60                  | R 50                |
|                                                                                    | 69 x 50 x 9              | Ø5 mm (2x)    | ■                                           |                              | to 80                      | R 46                |
|                                                                                    | Ø 84x7.4                 | Ø4.5 mm (1x)  | ■                                           |                              | -20 to 60                  | R 84                |
|                                                                                    | 19 x 54 x 9.4            | adhesive      | ■                                           |                              | -20 to 60                  | R 19x54             |
|                                                                                    | 50 x 80 x 7.2            | adhesive      | ■                                           |                              | -20 to 60                  | R 50x80             |
|                                                                                    | 51 x 95 x 8              | Ø3.3mm (2x)   | ■                                           |                              | to 500                     | R 51x94/500°        |
|                                                                                    | 100 x 100 x 9            | Ø 3.8 (2x)    | ■                                           |                              | -20 to 60                  | R 100x100           |
|                                                                                    | 100 x 100 x 9            | Ø3.8mm (2x)   | ■                                           |                              | to 150                     | R 100x100/150°      |
|                                                                                    | Width of 50              | self-adhesive | ■                                           |                              | -20 to 60                  | RFP 50/... m        |

|                                                                                     |                   |            |  |   |           |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------|------------|--|---|-----------|---------------------------------------------------------------------------------------|
| <b>Reflectors and reflective foil for laser light</b>                               |                   |            |  |   |           |  |
|  | 12.8 x 16.8 x 4.2 | adhesive   |  | ■ | Up to 60  | RL 13x17                                                                              |
|                                                                                     | 42 x 35 x 8.4     | Ø 3.3 (2x) |  | ■ | Up to 60  | RL 42x35                                                                              |
|                                                                                     | 43 x 20 x 3.5     | Ø 3.3 (2x) |  | ■ | Up to 110 | RL 43x20/110°                                                                         |
|                                                                                     | 30 x 45 x 5.5     | Ø 3.3 (2x) |  | ■ | Up to 70  | RL 45x30                                                                              |
|                                                                                     | 50 x 230          | adhesive   |  | ■ | Up to 60  | RFPL 50x230                                                                           |

The specified range can be reduced by up to 50% compared to the reference reflector.