

# Sensors SOE..., opto-electronic

Product overview

**FESTO**



- Diffuse sensors and retro-reflective sensors
- Sensors with background suppression
- Fibre-optic units
- Distance sensors
- Laser contrast sensors, diffuse sensors and retro-reflective sensors
- Colour sensors
- Ranges up to 20 m
- Adjustment using teach-in or potentiometer

Detailed product information

➔ [www.festo.com/catalog/soe](http://www.festo.com/catalog/soe)

| Product overview                         |                                         |                                  |               |                 |                       |                 |
|------------------------------------------|-----------------------------------------|----------------------------------|---------------|-----------------|-----------------------|-----------------|
| Variant                                  | Type                                    | Operating voltage                | Switch output | Analogue output | Design                | ➔ Page/Internet |
| Diffuse sensor                           | SOEG-RT<br>Basic version                | 10 ... 36 V DC<br>10 ... 30 V DC | PNP<br>NPN    | –               | Round<br>Block-shaped | 4               |
|                                          | SOEG-RTZ<br>With cylindrical light beam |                                  | PNP<br>NPN    | –               | Round                 | 6               |
|                                          |                                         |                                  |               |                 |                       |                 |
| Sensor with background suppression       | SOEG-RTH                                | 10 ... 36 V DC<br>10 ... 30 V DC | PNP<br>NPN    | –               | Round<br>Block-shaped | 7               |
| Retro-reflective sensor                  | SOEG-RSP<br>Basic version               | 10 ... 36 V DC<br>10 ... 30 V DC | PNP<br>NPN    | –               | Round<br>Block-shaped | 9               |
|                                          | SOEG-RSG<br>For transparent objects     |                                  | PNP<br>NPN    | –               | Block-shaped          | 11              |
|                                          |                                         |                                  |               |                 |                       |                 |
| Through-beam sensor                      | SOEG-S<br>Transmitter                   | 10 ... 36 V DC<br>10 ... 30 V DC | –             | –               | Round<br>Block-shaped | 12              |
|                                          | SOEG-E<br>Receiver                      | 10 ... 36 V DC<br>10 ... 30 V DC | PNP<br>NPN    | –               | Round<br>Block-shaped | 12              |
|                                          |                                         |                                  |               |                 |                       |                 |
| Fibre-optic unit                         | SOEG-L<br>Basic version                 | 10 ... 30 V DC                   | PNP<br>NPN    | –               | Block-shaped          | 14              |
| Distance sensor                          | SOEG-RTD                                | 15 ... 30 V DC                   | PNP           | 0 ... 10 V      | Block-shaped          | 15              |
| Laser diffuse sensor                     | SOEL-RT<br>Contrast sensor              | 10 ... 30 V DC                   | PNP<br>NPN    | –               | Block-shaped          | 16              |
| Laser sensor with background suppression | SOEL-RTH                                |                                  | PNP<br>NPN    | –               | Block-shaped          | 16              |
| Laser retro-reflective sensor            | SOEL-RSP                                | 10 ... 30 V DC                   | PNP<br>NPN    | –               | Block-shaped          | 17              |
| Laser distance sensor                    | SOEL-RTD                                | 16 ... 30 V DC                   | 2x PNP        | 4 ... 20 mA     | Block-shaped          | 18              |
|                                          |                                         | 18 ... 28 V DC                   | –             | 0 ... 10 V      |                       |                 |

|               |         |                |        |   |              |    |
|---------------|---------|----------------|--------|---|--------------|----|
| Colour sensor | SOEC-RT | 10 ... 30 V DC | 3x PNP | – | Block-shaped | 19 |
|---------------|---------|----------------|--------|---|--------------|----|

# Sensors SOE..., opto-electronic

Type codes

|                                 |                                                             | SOE | G | - | RSP | - | Q20 | - | PP | - | K | - | 2L | - | TI | - |  |
|---------------------------------|-------------------------------------------------------------|-----|---|---|-----|---|-----|---|----|---|---|---|----|---|----|---|--|
| <b>Type</b>                     |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| SOE                             | Opto-electronic sensors                                     |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Design</b>                   |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| G                               | Standard sensor                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| L                               | Laser sensor                                                |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| C                               | Colour sensor                                               |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Function</b>                 |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RT                              | Diffuse sensor                                              |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RSP                             | Retro-reflective sensor                                     |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| S                               | Through-beam sensor, transmitter                            |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| E                               | Through-beam sensor, receiver                               |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| L                               | Fibre-optic unit                                            |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RTH                             | Sensor with background suppression                          |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RTZ                             | Diffuse sensor with cylindrical light beam                  |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RTD                             | Distance sensor                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| RSG                             | Retro-reflective sensor for transparent objects             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Design, size, version</b>    |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| 4                               | Round, dia. 4 mm                                            |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| M5                              | Round, M5                                                   |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| M12                             | Round, M12                                                  |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| M18                             | Round, M18, beam exit straight                              |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| M18W                            | Round, M18, beam exit angled                                |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| Q20                             | Block design, 20x32x12 mm                                   |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| Q30                             | Block design, 30x30x15 mm                                   |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| Q50                             | Block design, 50x50x17 mm                                   |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Switch output</b>            |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| PS                              | PNP, normally open                                          |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| NS                              | NPN, normally open                                          |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| PA                              | PNP, antivalent                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| NA                              | NPN, antivalent                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| PP                              | PNP, switchable                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| NP                              | NPN, switchable                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| PU                              | Analogue 0 ... 10 V                                         |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Electrical connection</b>    |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| K                               | Cable                                                       |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| S                               | Plug                                                        |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Indication</b>               |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| L                               | 1 LED                                                       |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| 2L                              | 2 LEDs                                                      |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| 3L                              | 3 LEDs                                                      |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| 7L                              | 7 LEDs                                                      |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Options</b>                  |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
|                                 | Standard version                                            |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| TI                              | Teach-in by means of a button and via electrical connection |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |
| <b>Position measuring range</b> |                                                             |     |   |   |     |   |     |   |    |   |   |   |    |   |    |   |  |

# Diffuse sensors SOEG-RT

Technical data

**FESTO**

| General technical data |          |    |               |                 |               |                                                |               |
|------------------------|----------|----|---------------|-----------------|---------------|------------------------------------------------|---------------|
| Size                   | Ø 4 mm   | M5 | M12x1         | M18x1, straight | M18x1, angled | 20x32x12 mm                                    | 30x30x15 mm   |
| Working range [mm]     | 50       |    | 70 ... 300    | 40 ... 600      | 0 ... 600     | 10 ... 300                                     | 0 ... 600     |
| Light type             | Infrared |    | Red           |                 |               | Red                                            | Infrared      |
| Setting options        | –        |    | Potentiometer |                 |               | Teach-in<br>Teach-in via electrical connection | Potentiometer |

| Electrical data                      |                                |             |              |                 |               |             |             |
|--------------------------------------|--------------------------------|-------------|--------------|-----------------|---------------|-------------|-------------|
| Size                                 | Ø 4 mm                         | M5          | M12x1        | M18x1, straight | M18x1, angled | 20x32x12 mm | 30x30x15 mm |
| Electrical connection                | Cable                          | 3-wire      |              | 4-wire          | 3-wire        | 4-wire      | 3-wire      |
|                                      | Plug                           | M8x1, 3-pin | M12x1, 3-pin | M12x1, 4-pin    | M12x1, 3-pin  | M8x1, 4-pin | M8x1, 3-pin |
| Operating voltage range [V DC]       | 10 ... 30                      |             | 10 ... 36    |                 |               | 10 ... 30   |             |
| Max. output current [mA]             | 100                            |             | 200          |                 |               | 100         | 200         |
| Max. switching frequency [Hz]        | 250                            |             | 1,000        |                 |               | 1,000       |             |
| Protection against short circuit     | Pulsed                         |             |              |                 |               |             |             |
| Protection against polarity reversal | For all electrical connections |             |              |                 |               |             |             |
| Protection class                     | IP67                           |             | IP65, IP67   |                 |               | IP67        | IP65        |

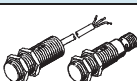
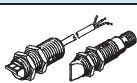
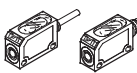
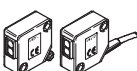
| Operating and environmental conditions                    |                                     |    |             |                 |               |             |             |
|-----------------------------------------------------------|-------------------------------------|----|-------------|-----------------|---------------|-------------|-------------|
| Size                                                      | Ø 4 mm                              | M5 | M12x1       | M18x1, straight | M18x1, angled | 20x32x12 mm | 30x30x15 mm |
| Ambient temperature [°C]                                  | 0 ... 55                            |    | –25 ... +55 |                 |               | –20 ... +60 | –25 ... +55 |
| Ambient temperature with flexible cable installation [°C] | 0 ... 55                            |    | –5 ... +55  |                 |               | –5 ... +60  | –5 ... +55  |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive |    |             |                 |               |             |             |
| Certification                                             | c UL us - Listed (OL)               |    |             |                 |               |             |             |
|                                                           | C-Tick                              |    |             |                 |               |             |             |

| Materials    |                            |    |                      |                    |                  |                                 |                                              |
|--------------|----------------------------|----|----------------------|--------------------|------------------|---------------------------------|----------------------------------------------|
| Size         | Ø 4 mm                     | M5 | M12x1                | M18x1,<br>straight | M18x1,<br>angled | 20x32x12 mm                     | 30x30x15 mm                                  |
| Housing      | High-alloy stainless steel |    | Brass, chrome-plated |                    |                  | Acrylic<br>butadiene<br>styrene | Polybutylene<br>terephthalate,<br>reinforced |
| Cable sheath | Polyurethane               |    |                      |                    |                  |                                 |                                              |

# Diffuse sensors SOEG-RT

FESTO

Technical data

| Ordering data                                                                       |                       |                            |               |                       |                        |          |                        |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|------------------------|----------|------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                        |          |                        |
|                                                                                     |                       |                            |               | Cable                 |                        | Plug     |                        |
|                                                                                     |                       |                            |               | Part No.              | Type                   | Part No. | Type                   |
| Ø 4 mm                                                                              |                       |                            |               |                       |                        |          |                        |
|    | 50                    | Light switching            | PNP           | 537671                | SOEG-RT-4-PS-K-L       | 537673   | SOEG-RT-4-PS-S-L       |
|                                                                                     |                       |                            | NPN           | 537674                | SOEG-RT-4-NS-K-L       | 537676   | SOEG-RT-4-NS-S-L       |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| M5                                                                                  |                       |                            |               |                       |                        |          |                        |
|    | 50                    | Light switching            | PNP           | 537677                | SOEG-RT-M5-PS-K-L      | 537679   | SOEG-RT-M5-PS-S-L      |
|                                                                                     |                       |                            | NPN           | 537680                | SOEG-RT-M5-NS-K-L      | 537682   | SOEG-RT-M5-NS-S-L      |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| M12                                                                                 |                       |                            |               |                       |                        |          |                        |
|    | 70 ... 300            | Light switching            | PNP           | 547908                | SOEG-RT-M12-PS-K-2L    | 547909   | SOEG-RT-M12-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 547906                | SOEG-RT-M12-NS-K-2L    | 547907   | SOEG-RT-M12-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| M18, beam exit straight                                                             |                       |                            |               |                       |                        |          |                        |
|   | 40 ... 600            | Antivalent                 | PNP           | 547912                | SOEG-RT-M18-PA-K-2L    | 547913   | SOEG-RT-M18-PA-S-2L    |
|                                                                                     |                       |                            | NPN           | 547910                | SOEG-RT-M18-NA-K-2L    | 547911   | SOEG-RT-M18-NA-S-2L    |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| M18, beam exit angled                                                               |                       |                            |               |                       |                        |          |                        |
|  | 0 ... 600             | Light switching            | PNP           | 537701                | SOEG-RT-M18W-PS-K-2L   | 537702   | SOEG-RT-M18W-PS-S-2L   |
|                                                                                     |                       |                            | NPN           | 537717                | SOEG-RT-M18W-NS-K-2L   | 537718   | SOEG-RT-M18W-NS-S-2L   |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                        |          |                        |
|  | 10 ... 300            | Switchable                 | PNP           | 537732                | SOEG-RT-Q20-PP-K-2L-TI | 537731   | SOEG-RT-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537734                | SOEG-RT-Q20-NP-K-2L-TI | 537733   | SOEG-RT-Q20-NP-S-2L-TI |
|                                                                                     |                       |                            |               |                       |                        |          |                        |
| 30x30x15 mm                                                                         |                       |                            |               |                       |                        |          |                        |
|  | 0 ... 600             | Light switching            | PNP           | 165350                | SOEG-RT-Q30-PS-K-2L    | 165351   | SOEG-RT-Q30-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 165348                | SOEG-RT-Q30-NS-K-2L    | 165349   | SOEG-RT-Q30-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                        |          |                        |

# Diffuse sensors SOEG-RTZ, with cylindrical light beam

FESTO

Technical data

| General technical data |          |    |
|------------------------|----------|----|
| Size                   | Ø 4 mm   | M5 |
| Working range [mm]     | 10       |    |
| Light type             | Infrared |    |
| Setting options        | –        |    |

| Electrical data                      |                                |    |
|--------------------------------------|--------------------------------|----|
| Size                                 | Ø 4 mm                         | M5 |
| Electrical connection                | Cable, 3-wire                  |    |
| Operating voltage range [V DC]       | 10 ... 30                      |    |
| Max. output current [mA]             | 100                            |    |
| Max. switching frequency [Hz]        | 250                            |    |
| Protection against short circuit     | Pulsed                         |    |
| Protection against polarity reversal | For all electrical connections |    |
| Protection class                     | IP67                           |    |

| Operating and environmental conditions                    |                                     |    |
|-----------------------------------------------------------|-------------------------------------|----|
| Size                                                      | Ø 4 mm                              | M5 |
| Ambient temperature [°C]                                  | 0 ... 55                            |    |
| Ambient temperature with flexible cable installation [°C] | 0 ... 55                            |    |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive |    |
| Certification                                             | c UL us - Listed (OL)               |    |
|                                                           | C-Tick                              |    |

| Materials    |                            |    |
|--------------|----------------------------|----|
| Size         | Ø 4 mm                     | M5 |
| Housing      | High-alloy stainless steel |    |
| Cable sheath | Polyurethane               |    |

| Ordering data                                                                       |                       |                            |               |                       |                    |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|--------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                    |
|                                                                                     |                       |                            |               | Cable                 |                    |
|                                                                                     |                       |                            |               | Part No.              | Type               |
| Ø 4 mm                                                                              |                       |                            |               |                       |                    |
|  | 10                    | Light switching            | PNP           | 537672                | SOEG-RTZ-4-PS-K-L  |
|                                                                                     |                       |                            | NPN           | 537675                | SOEG-RTZ-4-NS-K-L  |
|                                                                                     |                       |                            |               |                       |                    |
|                                                                                     |                       |                            |               |                       |                    |
| M5                                                                                  |                       |                            |               |                       |                    |
|  | 10                    | Light switching            | PNP           | 537678                | SOEG-RTZ-M5-PS-K-L |
|                                                                                     |                       |                            | NPN           | 537681                | SOEG-RTZ-M5-NS-K-L |
|                                                                                     |                       |                            |               |                       |                    |

# Sensors SOEG-RTH, with background suppression

FESTO

Technical data

| General technical data |                 |               |                                                |               |               |
|------------------------|-----------------|---------------|------------------------------------------------|---------------|---------------|
| Size                   | M18x1, straight | M18x1, angled | 20x32x12 mm                                    | 30x30x15 mm   | 50x50x17 mm   |
| Working range [mm]     | 10 ... 120      | 10 ... 120    | 25 ... 100                                     | 15 ... 150    | 30 ... 300    |
| Light type             | Red             |               |                                                |               |               |
| Setting options        | Potentiometer   |               | Teach-in<br>Teach-in via electrical connection | Potentiometer | Potentiometer |

| Electrical data                      |                                |               |             |              |              |
|--------------------------------------|--------------------------------|---------------|-------------|--------------|--------------|
| Size                                 | M18x1, straight                | M18x1, angled | 20x32x12 mm | 30x30x15 mm  | 50x50x17 mm  |
| Electrical connection                | Cable                          | 3-wire        | 4-wire      | 3-wire       | 4-wire       |
|                                      | Plug                           | M12x1, 3-pin  | M8x1, 4-pin | M12x1, 3-pin | M12x1, 4-pin |
| Operating voltage range [V DC]       | 10 ... 36                      |               | 10 ... 30   | 10 ... 36    | 10 ... 30    |
| Max. output current [mA]             | 200                            |               | 100         | 200          |              |
| Max. switching frequency [Hz]        | 500                            |               | 1,000       | 500          | 1,000        |
| Protection against short circuit     | Pulsed                         |               |             |              |              |
| Protection against polarity reversal | For all electrical connections |               |             |              |              |
| Protection class                     | IP65, IP67                     |               | IP67        | IP65         | IP67         |

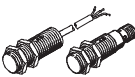
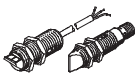
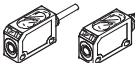
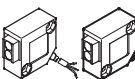
| Operating and environmental conditions                    |                                     |               |                                                                                    |                                     |                                                                                    |
|-----------------------------------------------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------|
| Size                                                      | M18x1, straight                     | M18x1, angled | 20x32x12 mm                                                                        | 30x30x15 mm                         | 50x50x17 mm                                                                        |
| Ambient temperature [°C]                                  | -25 ... +55                         |               | -20 ... +60                                                                        | -25 ... +55                         | -20 ... +60                                                                        |
| Ambient temperature with flexible cable installation [°C] | -5 ... +55                          |               | -5 ... +60                                                                         | -5 ... +55                          | -5 ... +60                                                                         |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive |               | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive | In accordance with EU EMC directive | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive |
| Certification                                             | c UL us - Listed (OL)<br>C-Tick     |               |                                                                                    |                                     |                                                                                    |

| Materials    |                      |               |                           |                                        |                           |
|--------------|----------------------|---------------|---------------------------|----------------------------------------|---------------------------|
| Size         | M18x1, straight      | M18x1, angled | 20x32x12 mm               | 30x30x15 mm                            | 50x50x17 mm               |
| Housing      | Brass, chrome-plated |               | Acrylic butadiene styrene | Polybutylene terephthalate, reinforced | Acrylic butadiene styrene |
| Cable sheath | Polyurethane         |               |                           |                                        |                           |

# Sensors SOEG-RTH, with background suppression

FESTO

Technical data

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| M18, beam exit straight                                                             |                       |                            |               |                       |                         |          |                         |
|    | 10 ... 120            | Antivalent                 | PNP           | 537687                | SOEG-RTH-M18-PS-K-2L    | 537689   | SOEG-RTH-M18-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 537705                | SOEG-RTH-M18-NS-K-2L    | 537707   | SOEG-RTH-M18-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| M18, beam exit angled                                                               |                       |                            |               |                       |                         |          |                         |
|    | 10 ... 120            | Light switching            | PNP           | 537688                | SOEG-RTH-M18W-PS-K-2L   | 537690   | SOEG-RTH-M18W-PS-S-2L   |
|                                                                                     |                       |                            | NPN           | 537706                | SOEG-RTH-M18W-NS-K-2L   | 537708   | SOEG-RTH-M18W-NS-S-2L   |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|    | 25 ... 100            | Switchable                 | PNP           | 537724                | SOEG-RTH-Q20-PP-K-2L-TI | 537723   | SOEG-RTH-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537726                | SOEG-RTH-Q20-NP-K-2L-TI | 537725   | SOEG-RTH-Q20-NP-S-2L-TI |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 30x30x15 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|   | 15 ... 150            | Light switching            | PNP           | 537719                | SOEG-RTH-Q30-PS-K-2L    | 537720   | SOEG-RTH-Q30-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 537721                | SOEG-RTH-Q30-NS-K-2L    | 537722   | SOEG-RTH-Q30-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 50x50x17 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 30 ... 300            | Light switching            | PNP           | 537771                | SOEG-RTH-Q50-PA-K-3L    | 537773   | SOEG-RTH-Q50-PA-S-3L    |
|                                                                                     |                       |                            | NPN           | 537772                | SOEG-RTH-Q50-NA-K-3L    | 537774   | SOEG-RTH-Q50-NA-S-3L    |



# Retro-reflective sensors SOEG-RSP

FESTO

Technical data

| General technical data |               |                 |               |                                                              |               |             |
|------------------------|---------------|-----------------|---------------|--------------------------------------------------------------|---------------|-------------|
| Size                   | M12x1         | M18x1, straight | M18x1, angled | 20x32x12 mm                                                  | 30x30x15 mm   | 50x50x17 mm |
| Working range [mm]     | 1,500         | 2,000           | 2,000         | 0 ... 2,500                                                  | 0 ... 2,000   | 0 ... 5,500 |
| Light type             | Red polarised |                 |               |                                                              |               |             |
| Setting options        | –             |                 |               | Teach-in<br>Teach-in via electrical connection <sup>1)</sup> | Potentiometer |             |

1) Low-cost variants without the teach-in and programming functionality available

| Electrical data                      |        |                                |                 |               |             |             |              |
|--------------------------------------|--------|--------------------------------|-----------------|---------------|-------------|-------------|--------------|
| Size                                 |        | M12x1                          | M18x1, straight | M18x1, angled | 20x32x12 mm | 30x30x15 mm | 50x50x17 mm  |
| Electrical connection                | Cable  | 3-wire                         |                 |               | 4-wire      | 3-wire      | 4-wire       |
|                                      | Plug   | M12x1, 3-pin                   |                 |               | M8x1, 4-pin | M8x1, 3-pin | M12x1, 4-pin |
| Operating voltage range              | [V DC] | 10 ... 36                      |                 |               | 10 ... 30   |             |              |
| Max. output current                  | [mA]   | 200                            |                 |               | 100         | 200         |              |
| Max. switching frequency             | [Hz]   | 1,000                          |                 |               |             |             |              |
| Protection against short circuit     |        | Pulsed                         |                 |               |             |             |              |
| Protection against polarity reversal |        | For all electrical connections |                 |               |             |             |              |
| Protection class                     |        | IP65, IP67                     |                 |               | IP67        | IP65        | IP67         |

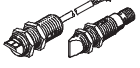
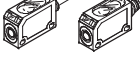
| Operating and environmental conditions                    |                                     |                 |               |                                                                                    |                                     |                                                                                    |
|-----------------------------------------------------------|-------------------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------|
| Size                                                      | M12x1                               | M18x1, straight | M18x1, angled | 20x32x12 mm                                                                        | 30x30x15 mm                         | 50x50x17 mm                                                                        |
| Ambient temperature [°C]                                  | –25 ... +55                         |                 |               | –20 ... +60                                                                        | –25 ... +55                         | –20 ... +60                                                                        |
| Ambient temperature with flexible cable installation [°C] | –5 ... +55                          |                 |               | –5 ... +60                                                                         | –5 ... +55                          | –5 ... +60                                                                         |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive |                 |               | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive | In accordance with EU EMC directive | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive |
| Certification                                             | c UL us - Listed (OL)               |                 |               |                                                                                    |                                     |                                                                                    |
|                                                           | C-Tick                              |                 |               |                                                                                    |                                     |                                                                                    |

| Materials    |                      |                 |               |                           |                                        |                           |
|--------------|----------------------|-----------------|---------------|---------------------------|----------------------------------------|---------------------------|
| Size         | M12x1                | M18x1, straight | M18x1, angled | 20x32x12 mm               | 30x30x15 mm                            | 50x50x17 mm               |
| Housing      | Brass, chrome-plated |                 |               | Acrylic butadiene styrene | Polybutylene terephthalate, reinforced | Acrylic butadiene styrene |
| Cable sheath | Polyurethane         |                 |               |                           |                                        |                           |

# Retro-reflective sensors SOEG-RSP

FESTO

Technical data

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| M12                                                                                 |                       |                            |               |                       |                         |          |                         |
|    | 1,500                 | Dark switching             | PNP           | 537683                | SOEG-RSP-M12-PS-K-2L    | 537684   | SOEG-RSP-M12-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 537685                | SOEG-RSP-M12-NS-K-2L    | 537686   | SOEG-RSP-M12-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| M18, beam exit straight                                                             |                       |                            |               |                       |                         |          |                         |
|    | 2,000                 | Dark switching             | PNP           | 537697                | SOEG-RSP-M18-PS-K-2L    | 537699   | SOEG-RSP-M18-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 537713                | SOEG-RSP-M18-NS-K-2L    | 537715   | SOEG-RSP-M18-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| M18, beam exit angled                                                               |                       |                            |               |                       |                         |          |                         |
|    | 2,000                 | Dark switching             | PNP           | 537698                | SOEG-RSP-M18W-PS-K-2L   | 537700   | SOEG-RSP-M18W-PS-S-2L   |
|                                                                                     |                       |                            | NPN           | 537714                | SOEG-RSP-M18W-NS-K-2L   | 537716   | SOEG-RSP-M18W-NS-S-2L   |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|   | 2,500                 | Switchable                 | PNP           | 537750                | SOEG-RSP-Q20-PP-K-2L-TI | 537749   | SOEG-RSP-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537752                | SOEG-RSP-Q20-NP-K-2L-TI | 537751   | SOEG-RSP-Q20-NP-S-2L-TI |
|                                                                                     |                       | 2,500                      | Switchable    | PNP                   | –                       |          | 537784                  |
| 30x30x15 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 0 ... 2,000           | Dark switching             | PNP           | 165330                | SOEG-RSP-Q30-PS-K-2L    | 165331   | SOEG-RSP-Q30-PS-S-2L    |
|                                                                                     |                       |                            | NPN           | 165328                | SOEG-RSP-Q30-NS-K-2L    | 165329   | SOEG-RSP-Q30-NS-S-2L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 50x50x17 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 0 ... 5,500           | Antivalent                 | PNP           | 537763                | SOEG-RSP-Q50-PA-K-3L    | 537765   | SOEG-RSP-Q50-PA-S-3L    |
|                                                                                     |                       |                            | NPN           | 537764                | SOEG-RSP-Q50-NA-K-3L    | 537766   | SOEG-RSP-Q50-NA-S-3L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |

1) Low-cost variants without the teach-in and programming functionality

# Retro-reflective sensors SOEG-RSG, for transparent objects

**FESTO**

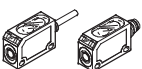
Technical data

| General technical data |                                                |           |
|------------------------|------------------------------------------------|-----------|
| Size                   | 20x32x12 mm                                    |           |
| Working range          | [mm]                                           | 5 ... 500 |
| Light type             | Red polarised                                  |           |
| Setting options        | Teach-in<br>Teach-in via electrical connection |           |

| Electrical data                      |                                |             |
|--------------------------------------|--------------------------------|-------------|
| Size                                 | 20x32x12 mm                    |             |
| Electrical connection                | Cable                          | 4-wire      |
|                                      | Plug                           | M8x1, 4-pin |
| Operating voltage range              | [V DC]                         | 10 ... 30   |
| Max. output current                  | [mA]                           | 100         |
| Max. switching frequency             | [Hz]                           | 1,000       |
| Protection against short circuit     | Pulsed                         |             |
| Protection against polarity reversal | For all electrical connections |             |
| Protection class                     | IP67                           |             |

| Operating and environmental conditions               |                                             |             |
|------------------------------------------------------|---------------------------------------------|-------------|
| Size                                                 | 20x32x12 mm                                 |             |
| Ambient temperature                                  | [°C]                                        | -20 ... +60 |
| Ambient temperature with flexible cable installation | [°C]                                        | -5 ... +60  |
| CE mark (see declaration of conformity)              | In accordance with EU EMC directive         |             |
|                                                      | In accordance with EU Low Voltage Directive |             |
| Certification                                        | c UL us - Listed (OL)                       |             |
|                                                      | C-Tick                                      |             |

| Materials    |                           |
|--------------|---------------------------|
| Size         | 20x32x12 mm               |
| Housing      | Acrylic butadiene styrene |
| Cable sheath | Polyurethane              |

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 5 ... 500             | Switchable                 | PNP           | 537754                | SOEG-RSG-Q20-PP-K-2L-TI | 537753   | SOEG-RSG-Q20-PP-S-2L-TI |

# Through-beam sensors SOEG-S/E

Technical data

**FESTO**

| General technical data |                 |               |                                                |               |             |
|------------------------|-----------------|---------------|------------------------------------------------|---------------|-------------|
| Size                   | M18x1, straight | M18x1, angled | 20x32x12 mm                                    | 30x30x15 mm   | 50x50x17 mm |
| Working range [mm]     | 20,000          | 20,000        | 6,000                                          | 2,000         | 15,000      |
| Light type             | Red             |               |                                                | Infrared      |             |
| Setting options        | –               |               | Teach-in<br>Teach-in via electrical connection | Potentiometer |             |

| Electrical data                      |             |        |                                |               |             |             |              |
|--------------------------------------|-------------|--------|--------------------------------|---------------|-------------|-------------|--------------|
| Size                                 |             |        | M18x1, straight                | M18x1, angled | 20x32x12 mm | 30x30x15 mm | 50x50x17 mm  |
| Electrical connection                | Transmitter | Cable  | 3-wire                         |               | 4-wire      | 3-wire      | 4-wire       |
|                                      |             | Plug   | M12x1, 3-pin                   |               | M8x1, 4-pin | M8x1, 3-pin | M12x1, 4-pin |
|                                      | Receiver    | Cable  | 4-wire                         |               | 4-wire      | 3-wire      | 4-wire       |
|                                      |             | Plug   | M12x1, 4-pin                   |               | M8x1, 4-pin | M8x1, 3-pin | M12x1, 4-pin |
| Operating voltage range              |             | [V DC] | 10 ... 36                      |               | 10 ... 30   |             |              |
| Max. output current                  |             | [mA]   | 200                            |               | 100         | 200         |              |
| Max. switching frequency             |             | [Hz]   | 1,000                          |               | 500         | 1,000       |              |
| Protection against short circuit     |             |        | Pulsed                         |               |             |             |              |
| Protection against polarity reversal |             |        | For all electrical connections |               |             |             |              |
| Protection class                     |             |        | IP65, IP67                     |               | IP67        | IP65        | IP67         |

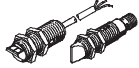
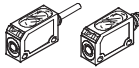
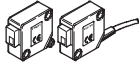
| Operating and environmental conditions                    |                                     |               |                                                                                    |                                     |                                                                                    |
|-----------------------------------------------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------|
| Size                                                      | M18x1, straight                     | M18x1, angled | 20x32x12 mm                                                                        | 30x30x15 mm                         | 50x50x17 mm                                                                        |
| Ambient temperature [°C]                                  | –25 ... +55                         |               | –20 ... +60                                                                        | –25 ... +55                         | –20 ... +60                                                                        |
| Ambient temperature with flexible cable installation [°C] | –5 ... +55                          |               | –5 ... +60                                                                         | –5 ... +55                          | –5 ... +60                                                                         |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive |               | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive | In accordance with EU EMC directive | In accordance with EU EMC directive<br>In accordance with EU Low Voltage Directive |
| Certification                                             | c UL us - Listed (OL)<br>C-Tick     |               |                                                                                    |                                     |                                                                                    |

| Materials    |                      |               |                           |                                        |                           |
|--------------|----------------------|---------------|---------------------------|----------------------------------------|---------------------------|
| Size         | M18x1, straight      | M18x1, angled | 20x32x12 mm               | 30x30x15 mm                            | 50x50x17 mm               |
| Housing      | Brass, chrome-plated |               | Acrylic butadiene styrene | Polybutylene terephthalate, reinforced | Acrylic butadiene styrene |
| Cable sheath | Polyurethane         |               |                           |                                        |                           |

# Through-beam sensors SOEG-S/E

Technical data

**FESTO**

| Ordering data                                                                       |                       |             |                            |               |                       |                       |          |                       |
|-------------------------------------------------------------------------------------|-----------------------|-------------|----------------------------|---------------|-----------------------|-----------------------|----------|-----------------------|
| Size                                                                                | Working range<br>[mm] | Function    | Switching element function | Switch output | Electrical connection |                       |          |                       |
|                                                                                     |                       |             |                            |               | Cable                 |                       | Plug     |                       |
|                                                                                     |                       |             |                            |               | Part No.              | Type                  | Part No. | Type                  |
| M18, beam exit straight                                                             |                       |             |                            |               |                       |                       |          |                       |
|    | 20,000                | Transmitter | –                          | –             | 537691                | SOEG-S-M18-K-L        | 537703   | SOEG-S-M18-S-L        |
|                                                                                     |                       | Receiver    | Antivalent                 | PNP           | 537692                | SOEG-E-M18-PA-K-2L    | 537704   | SOEG-E-M18-PA-S-2L    |
|                                                                                     |                       |             |                            | NPN           | 537709                | SOEG-E-M18-NA-K-2L    | 537711   | SOEG-E-M18-NA-S-2L    |
| M18, beam exit angled                                                               |                       |             |                            |               |                       |                       |          |                       |
|    | 20,000                | Transmitter | –                          | –             | 537693                | SOEG-S-M18W-K-L       | 537695   | SOEG-S-M18W-S-L       |
|                                                                                     |                       | Receiver    | Antivalent                 | PNP           | 537694                | SOEG-E-M18W-PA-K-2L   | 537696   | SOEG-E-M18W-PA-S-2L   |
|                                                                                     |                       |             |                            | NPN           | 537710                | SOEG-E-M18W-NA-K-2L   | 537712   | SOEG-E-M18W-NA-S-2L   |
| 20x32x12 mm                                                                         |                       |             |                            |               |                       |                       |          |                       |
|    | 6,000                 | Transmitter | –                          | –             | 537744                | SOEG-S-Q20-K-L-TI     | 537743   | SOEG-S-Q20-S-L-TI     |
|                                                                                     |                       | Receiver    | Switchable                 | PNP           | 537746                | SOEG-E-Q20-PP-K-2L-TI | 537745   | SOEG-E-Q20-PP-S-2L-TI |
|                                                                                     |                       |             |                            | NPN           | 537748                | SOEG-E-Q20-NP-K-2L-TI | 537747   | SOEG-E-Q20-NP-S-2L-TI |
| 30x30x15 mm                                                                         |                       |             |                            |               |                       |                       |          |                       |
|   | 2,000                 | Transmitter | –                          | –             | 165352                | SOEG-S-Q30-K-L        | 165353   | SOEG-S-Q30-S-L        |
|                                                                                     |                       | Receiver    | Dark switching             | PNP           | 165322                | SOEG-E-Q30-PS-K-2L    | 165323   | SOEG-E-Q30-PS-S-2L    |
|                                                                                     |                       |             |                            | NPN           | 165320                | SOEG-E-Q30-NS-K-2L    | 165321   | SOEG-E-Q30-NS-S-2L    |
| 50x50x17 mm                                                                         |                       |             |                            |               |                       |                       |          |                       |
|  | 15,000                | Transmitter | –                          | –             | 537779                | SOEG-S-Q50-K-L        | 537781   | SOEG-S-Q50-S-L        |
|                                                                                     |                       | Receiver    | Antivalent                 | PNP           | 537780                | SOEG-E-Q50-PA-K-3L    | 537782   | SOEG-E-Q50-PA-S-3L    |

# Fibre-optic units SOEG-L

Technical data

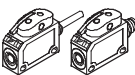
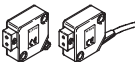
**FESTO**

| General technical data |                                                |               |
|------------------------|------------------------------------------------|---------------|
| Size                   | 20x32x12 mm                                    | 30x30x15 mm   |
| Working range [mm]     | 0 ... 250                                      | 0 ... 120     |
| Light type             | Red                                            |               |
| Setting options        | Teach-in<br>Teach-in via electrical connection | Potentiometer |

| Electrical data                      |                                |             |
|--------------------------------------|--------------------------------|-------------|
| Size                                 | 20x32x12 mm                    | 30x30x15 mm |
| Electrical connection                | Cable                          | 4-wire      |
|                                      | Plug                           | M8x1, 4-pin |
| Operating voltage range [V DC]       | 10 ... 30                      |             |
| Max. output current [mA]             | 100                            | 200         |
| Max. switching frequency [Hz]        | 1,000                          |             |
| Protection against short circuit     | Pulsed                         |             |
| Protection against polarity reversal | For all electrical connections |             |
| Protection class                     | IP67                           | IP65        |

| Operating and environmental conditions                    |                                             |                                     |
|-----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| Size                                                      | 20x32x12 mm                                 | 30x30x15 mm                         |
| Ambient temperature [°C]                                  | 0 ... 60                                    | −25 ... +55                         |
| Ambient temperature with flexible cable installation [°C] | 0 ... 60                                    | −5 ... +55                          |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive         | In accordance with EU EMC directive |
|                                                           | In accordance with EU Low Voltage Directive |                                     |
| Certification                                             | c UL us - Listed (OL)                       |                                     |
|                                                           | C-Tick                                      |                                     |

| Materials    |                           |                                        |
|--------------|---------------------------|----------------------------------------|
| Size         | 20x32x12 mm               | 30x30x15 mm                            |
| Housing      | Acrylic butadiene styrene | Polybutylene terephthalate, reinforced |
| Cable sheath | Polyurethane              |                                        |

| Ordering data                                                                       |                       |                            |               |                       |                       |          |                       |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-----------------------|----------|-----------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                       |          |                       |
|                                                                                     |                       |                            |               | Cable                 |                       | Plug     |                       |
|                                                                                     |                       |                            |               | Part No.              | Type                  | Part No. | Type                  |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                       |          |                       |
|  | 0 ... 250             | Switchable                 | PNP           | 537740                | SOEG-L-Q20-PP-K-2L-TI | 537739   | SOEG-L-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537742                | SOEG-L-Q20-NP-K-2L-TI | 537741   | SOEG-L-Q20-NP-S-2L-TI |
|                                                                                     |                       |                            |               |                       |                       |          |                       |
| 30x30x15 mm                                                                         |                       |                            |               |                       |                       |          |                       |
|  | 0 ... 120             | Antivalent                 | PNP           | 165326                | SOEG-L-Q30-P-A-K-2L   | 165327   | SOEG-L-Q30-P-A-S-2L   |
|                                                                                     |                       |                            | NPN           | 165324                | SOEG-L-Q30-NA-K-2L    | 165325   | SOEG-L-Q30-NA-S-2L    |
|                                                                                     |                       |                            |               |                       |                       |          |                       |

# Distance sensors SOEG-RTD

FESTO

Technical data

| General technical data  |      |                                                |
|-------------------------|------|------------------------------------------------|
| Size                    |      | 20x32x12 mm                                    |
| Working range           | [mm] | 20 ... 80                                      |
| Displacement resolution | [mm] | 0.5                                            |
| Light type              |      | Red                                            |
| Setting options         |      | Teach-in<br>Teach-in via electrical connection |

| Electrical data                      |        |                                |
|--------------------------------------|--------|--------------------------------|
| Size                                 |        | 20x32x12 mm                    |
| Analogue output                      | [V]    | 0 ... 10                       |
| Electrical connection                | Cable  | 4-wire                         |
|                                      | Plug   | M8x1, 4-pin                    |
| Operating voltage range              | [V DC] | 15 ... 30                      |
| Max. output current                  | [mA]   | 100                            |
| Max. switching frequency             | [Hz]   | 200                            |
| Protection against short circuit     |        | Pulsed                         |
| Protection against polarity reversal |        | For all electrical connections |
| Protection class                     |        | IP67                           |

| Operating and environmental conditions               |      |                                             |
|------------------------------------------------------|------|---------------------------------------------|
| Size                                                 |      | 20x32x12 mm                                 |
| Ambient temperature                                  | [°C] | 0 ... 60                                    |
| Ambient temperature with flexible cable installation | [°C] | 0 ... 60                                    |
| CE mark (see declaration of conformity)              |      | In accordance with EU EMC directive         |
|                                                      |      | In accordance with EU Low Voltage Directive |
| Certification                                        |      | c UL us - Listed (OL)                       |
|                                                      |      | C-Tick                                      |

| Materials    |  |                           |
|--------------|--|---------------------------|
| Size         |  | 20x32x12 mm               |
| Housing      |  | Acrylic butadiene styrene |
| Cable sheath |  | Polyurethane              |

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 20 ... 80             | Switchable                 | PNP           | 537758                | SOEG-RTD-Q20-PP-K-2L-TI | 537757   | SOEG-RTD-Q20-PP-S-2L-TI |

# Laser sensors SOEL-RT...

FESTO

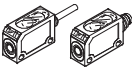
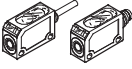
Technical data

| General technical data |                                                |                                                |               |
|------------------------|------------------------------------------------|------------------------------------------------|---------------|
| Method of measurement  | Contrast sensor (diffuse)                      | With background suppression                    |               |
| Size                   | 20x32x12 mm                                    | 20x32x12 mm                                    | 50x50x17 mm   |
| Working range [mm]     | 40 ... 150                                     | 30 ... 110                                     | 50 ... 300    |
| Light type             | Laser, red                                     |                                                |               |
| Laser protection class | 2                                              |                                                |               |
| Setting options        | Teach-in<br>Teach-in via electrical connection | Teach-in<br>Teach-in via electrical connection | Potentiometer |

| Electrical data                      |                                |                             |              |
|--------------------------------------|--------------------------------|-----------------------------|--------------|
| Method of measurement                | Contrast sensor (diffuse)      | With background suppression |              |
| Size                                 | 20x32x12 mm                    | 20x32x12 mm                 | 50x50x17 mm  |
| Electrical connection                | Cable                          | 4-wire                      | 4-wire       |
|                                      | Plug                           | M8x1, 4-pin                 | M12x1, 4-pin |
| Operating voltage range [V DC]       | 10 ... 30                      | 10 ... 30                   |              |
| Max. output current [mA]             | 100                            | 100                         | 200          |
| Max. switching frequency [Hz]        | 4,000                          | 1,000                       | 2,500        |
| Protection against short circuit     | Pulsed                         |                             |              |
| Protection against polarity reversal | For all electrical connections |                             |              |
| Protection class                     | IP67                           |                             |              |

| Operating and environmental conditions                    |                                             |                             |             |
|-----------------------------------------------------------|---------------------------------------------|-----------------------------|-------------|
| Method of measurement                                     | Contrast sensor (diffuse)                   | With background suppression |             |
| Size                                                      | 20x32x12 mm                                 | 20x32x12 mm                 | 50x50x17 mm |
| Ambient temperature [°C]                                  | -20 ... +60                                 | -20 ... +60                 | -20 ... +45 |
| Ambient temperature with flexible cable installation [°C] | -5 ... +60                                  | -5 ... +60                  | -5 ... +45  |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive         |                             |             |
|                                                           | In accordance with EU Low Voltage Directive |                             |             |
| Certification                                             | c UL us - Listed (OL)                       |                             |             |
|                                                           | C-Tick                                      |                             |             |

| Materials    |                           |
|--------------|---------------------------|
| Housing      | Acrylic butadiene styrene |
| Cable sheath | Polyurethane              |

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| 20x32x12 mm, contrast sensor (diffuse)                                              |                       |                            |               |                       |                         |          |                         |
|  | 40 ... 150            | Switchable                 | PNP           | 537736                | SOEL-RT-Q20-PP-K-2L-TI  | 537735   | SOEL-RT-Q20-PP-S-2L-TI  |
|                                                                                     |                       |                            | NPN           | 537738                | SOEL-RT-Q20-NP-K-2L-TI  | 537737   | SOEL-RT-Q20-NP-S-2L-TI  |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 20x32x12 mm, with background suppression                                            |                       |                            |               |                       |                         |          |                         |
|  | 30 ... 110            | Switchable                 | PNP           | 537729                | SOEL-RTH-Q20-PP-K-2L-TI | 537727   | SOEL-RTH-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537730                | SOEL-RTH-Q20-NP-K-2L-TI | 537728   | SOEL-RTH-Q20-NP-S-2L-TI |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 50x50x17 mm, with background suppression                                            |                       |                            |               |                       |                         |          |                         |
|  | 50 ... 300            | Antivalent                 | PNP           | 537777                | SOEL-RTH-Q50-PA-K-3L    | 537775   | SOEL-RTH-Q50-PA-S-3L    |
|                                                                                     |                       |                            | NPN           | 537778                | SOEL-RTH-Q50-NA-K-3L    | 537776   | SOEL-RTH-Q50-NA-S-3L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |



# Laser retro-reflective sensors SOEL-RSP

FESTO

Technical data

| General technical data |                                                |               |
|------------------------|------------------------------------------------|---------------|
| Size                   | 20x32x12 mm                                    | 50x50x17 mm   |
| Working range [mm]     | 70 ... 3,000                                   | 20,000        |
| Light type             | Red polarised                                  |               |
| Laser protection class | 1                                              | 1             |
| Setting options        | Teach-in<br>Teach-in via electrical connection | Potentiometer |

| Electrical data                      |                                |             |
|--------------------------------------|--------------------------------|-------------|
| Size                                 | 20x32x12 mm                    | 50x50x17 mm |
| Electrical connection                | Cable                          | 4-wire      |
|                                      | Plug                           | M8x1, 4-pin |
| Operating voltage range [V DC]       | 10 ... 30                      |             |
| Max. output current [mA]             | 100                            | 200         |
| Max. switching frequency [Hz]        | 4,000                          | 2,500       |
| Protection against short circuit     | Pulsed                         |             |
| Protection against polarity reversal | For all electrical connections |             |
| Protection class                     | IP67                           |             |

| Operating and environmental conditions                    |                                             |             |
|-----------------------------------------------------------|---------------------------------------------|-------------|
| Size                                                      | 20x32x12 mm                                 | 50x50x17 mm |
| Ambient temperature [°C]                                  | -20 ... +60                                 | -20 ... +45 |
| Ambient temperature with flexible cable installation [°C] | -5 ... +60                                  | -5 ... +45  |
| CE mark (see declaration of conformity)                   | In accordance with EU EMC directive         |             |
|                                                           | In accordance with EU Low Voltage Directive |             |
| Certification                                             | c UL us - Listed (OL)                       |             |
|                                                           | C-Tick                                      |             |

| Materials    |                           |             |
|--------------|---------------------------|-------------|
| Size         | 20x32x12 mm               | 50x50x17 mm |
| Housing      | Acrylic butadiene styrene |             |
| Cable sheath | Polyurethane              |             |

| Ordering data                                                                       |                       |                            |               |                       |                         |          |                         |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|-----------------------|-------------------------|----------|-------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection |                         |          |                         |
|                                                                                     |                       |                            |               | Cable                 |                         | Plug     |                         |
|                                                                                     |                       |                            |               | Part No.              | Type                    | Part No. | Type                    |
| 20x32x12 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 70 ... 3,000          | Switchable                 | PNP           | 537760                | SOEL-RSP-Q20-PP-K-2L-TI | 537759   | SOEL-RSP-Q20-PP-S-2L-TI |
|                                                                                     |                       |                            | NPN           | 537762                | SOEL-RSP-Q20-NP-K-2L-TI | 537761   | SOEL-RSP-Q20-NP-S-2L-TI |
|                                                                                     |                       |                            |               |                       |                         |          |                         |
| 50x50x17 mm                                                                         |                       |                            |               |                       |                         |          |                         |
|  | 20,000                | Antivalent                 | PNP           | 537769                | SOEL-RSP-Q50-PA-K-3L    | 537767   | SOEL-RSP-Q50-PA-S-3L    |
|                                                                                     |                       |                            | NPN           | 537770                | SOEL-RSP-Q50-NA-K-3L    | 537768   | SOEL-RSP-Q50-NA-S-3L    |
|                                                                                     |                       |                            |               |                       |                         |          |                         |

# Laser distance sensors SOEL-RTD

FESTO

Technical data

| General technical data   |             |           |                                                |            |
|--------------------------|-------------|-----------|------------------------------------------------|------------|
| Size                     | 50x50x17 mm |           |                                                |            |
| Working range            | [mm]        | 38 ... 58 | 44 ... 84                                      | 80 ... 300 |
| Position measuring range | [mm]        | 20        | 40                                             | 220        |
| Displacement resolution  | [mm]        | 0.007     | 0.02                                           | 0.3        |
| Light type               | Laser, red  |           |                                                |            |
| Laser protection class   | 2           |           |                                                |            |
| Setting options          | –           |           | –                                              |            |
|                          |             |           | Teach-in<br>Teach-in via electrical connection |            |

| Electrical data                                  |                       |           |                       |                                |
|--------------------------------------------------|-----------------------|-----------|-----------------------|--------------------------------|
| Size                                             | 50x50x17 mm           |           |                       |                                |
| Working range                                    | [mm]                  | 38 ... 58 | 44 ... 84             | 80 ... 300                     |
| Analogue output                                  | [mA]                  | –         | –                     | 4 ... 20                       |
|                                                  | [V]                   | 0 ... 10  | 0 ... 10              | –                              |
| Electrical connection                            | Plug M12x1, 4-pin     |           | Plug M12x1, 4-pin     | Plug M12x1, 8-pin              |
| Operating voltage range                          | [V DC]                | 18 ... 28 | 18 ... 28             | 16 ... 30                      |
| Max. load current on the analogue voltage output | [mA]                  | 3,0       | 3,0                   | –                              |
| Max. output current                              | [mA]                  | –         | –                     | 100                            |
| Measuring frequency                              | [Hz]                  | 40        | 40                    | –                              |
| Max. switching frequency                         | [Hz]                  | –         | –                     | 1,000                          |
| Protection against short circuit                 | Pulsed                |           |                       |                                |
| Protection against polarity reversal             | For operating voltage |           | For operating voltage | For all electrical connections |
| Protection class                                 | IP67                  |           |                       |                                |

| Operating and environmental conditions  |                                             |
|-----------------------------------------|---------------------------------------------|
| Size                                    | 50x50x17 mm                                 |
| Ambient temperature                     | [°C] 0 ... 45                               |
| CE mark (see declaration of conformity) | In accordance with EU EMC directive         |
|                                         | In accordance with EU Low Voltage Directive |
| Certification                           | c UL us - Listed (OL)                       |
|                                         | C-Tick                                      |

| Materials |                           |
|-----------|---------------------------|
| Size      | 50x50x17 mm               |
| Housing   | Acrylic butadiene styrene |

| Ordering data                                                                       |                       |                               |               |                 |                       |                                |
|-------------------------------------------------------------------------------------|-----------------------|-------------------------------|---------------|-----------------|-----------------------|--------------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element<br>function | Switch output | Analogue output | Electrical connection |                                |
|                                                                                     |                       |                               |               |                 | Plug                  |                                |
|                                                                                     |                       |                               |               |                 | Part No.              | Type                           |
| 50x50x17 mm                                                                         |                       |                               |               |                 |                       |                                |
|  | 38 ... 58             | –                             | –             | 0 ... 10 V      | <b>549315</b>         | <b>SOEL-RTD-Q50-PU-S-2L-20</b> |
|                                                                                     | 44 ... 84             | –                             | –             | 0 ... 10 V      | <b>549316</b>         | <b>SOEL-RTD-Q50-PU-S-2L-40</b> |
|                                                                                     | 80 ... 300            | Switchable                    | 2x PNP        | 4 ... 20 mA     | <b>537823</b>         | <b>SOEL-RTD-Q50-PP-S-7L</b>    |

# Colour sensors SOEC

Technical data

**FESTO**

| General technical data |                                                |
|------------------------|------------------------------------------------|
| Size                   | 50x50x17 mm                                    |
| Working range [mm]     | 12 ... 32                                      |
| Light type             | White                                          |
| Setting options        | Teach-in<br>Teach-in via electrical connection |

| Electrical data                      |                                |
|--------------------------------------|--------------------------------|
| Size                                 | 50x50x17 mm                    |
| Electrical connection                | Plug M12x1, 8-pin              |
| Operating voltage range [V DC]       | 10 ... 30                      |
| Max. output current [mA]             | 100                            |
| Max. switching frequency [Hz]        | 500                            |
| Protection against short circuit     | Pulsed                         |
| Protection against polarity reversal | For all electrical connections |
| Protection class                     | IP67                           |

| Materials |                           |
|-----------|---------------------------|
| Size      | 50x50x17 mm               |
| Housing   | Acrylic butadiene styrene |

| Operating and environmental conditions  |                                             |
|-----------------------------------------|---------------------------------------------|
| Size                                    | 50x50x17 mm                                 |
| Ambient temperature [°C]                | -10 ... +55                                 |
| CE mark (see declaration of conformity) | In accordance with EU EMC directive         |
|                                         | In accordance with EU Low Voltage Directive |
| Certification                           | c UL us - Listed (OL)                       |
|                                         | C-Tick                                      |

| Ordering data                                                                       |                       |                            |               |                                      |
|-------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------|--------------------------------------|
| Size                                                                                | Working range<br>[mm] | Switching element function | Switch output | Electrical connection                |
|                                                                                     |                       |                            |               | Plug                                 |
|                                                                                     |                       |                            |               | Part No.    Type                     |
| 50x50x17 mm                                                                         |                       |                            |               |                                      |
|  | 12 ... 32             | Light switching            | 3x PNP        | <b>538236    SOEC-RT-Q50-PS-S-7L</b> |

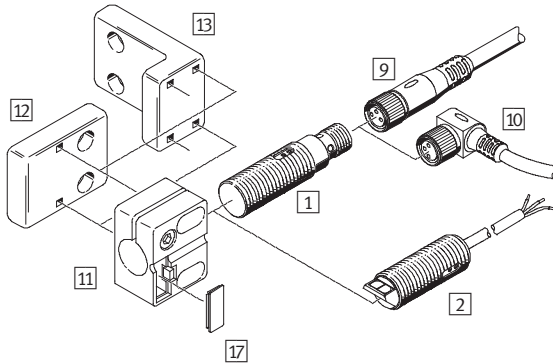
# Sensors SOE..., opto-electronic

Peripherals overview

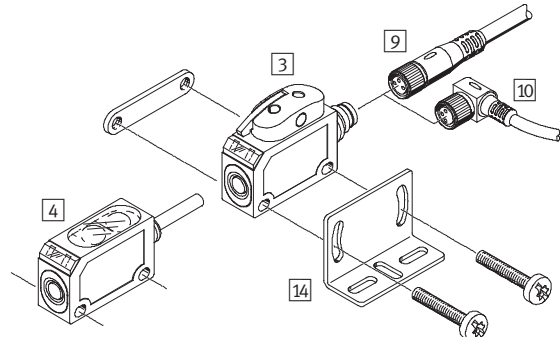
FESTO

## Peripherals overview

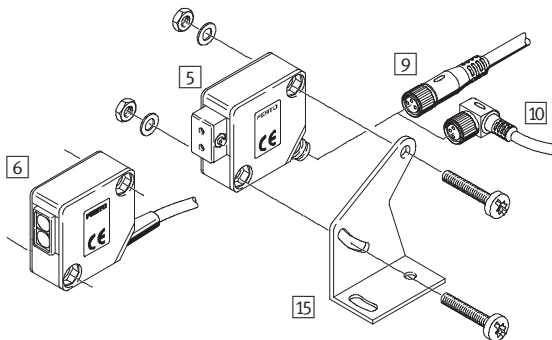
Round design, Ø 4 mm, M12, M18, M18W



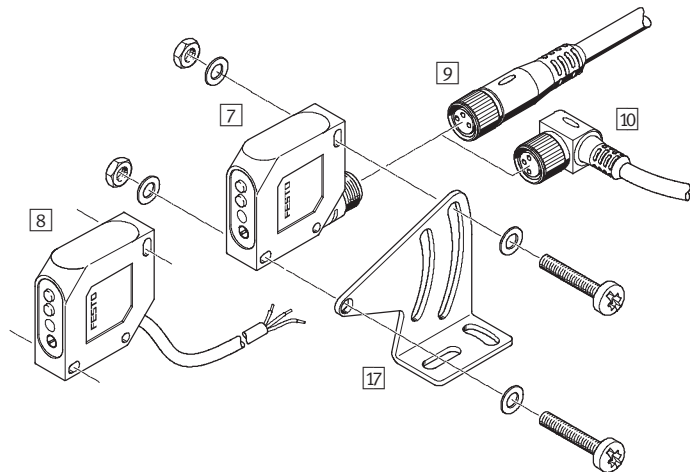
Block design, 20x32x12 mm



Block design, 30x30x15 mm



Block design, 50x50x17 mm



## Mounting attachments and accessories

### Sensors

- 1 Round design, Ø 4 mm, M12, M18..., with plug
- 2 Round design, Ø 4 mm, M12, M18..., with cable
- 3 Block design, 20x32x12 mm, with plug
- 4 Block design, 20x32x12 mm, with cable
- 5 Block design, 30x30x15 mm, with plug
- 6 Block design, 30x30x15 mm, with cable
- 7 Block design, 50x50x17 mm, with plug
- 8 Block design, 50x50x17 mm, with cable

### Connecting cables

- 9 NEBU-M...G...  
SIM-M...-...G
- 10 NEBU-M...W...  
SIM-M...-...W

### Sensor retainers

- 11 SIEZ-NB-...
- 12 SIEZ-UV
- 13 SIEZ-UH

## Mounting attachments and accessories

### Mounting brackets

- 14 SOEZ-HW-Q20
- 15 SOEZ-HW-Q30
- 16 SOEZ-HW-Q50

### Inscription label

- 17 SIEZ-LB

### Fibre-optic cables, polymer

- SOEZ-LLK-RT, diffuse sensor
- SOEZ-LLK-SE, through-beam sensor

### Fibre-optic cables, glass fibre

- SOEZ-LLG-RT, diffuse sensor
- SOEZ-LLG-SE, through-beam sensor

### Reflectors

- Reflector
- Reflector foil
- Reflector for laser light

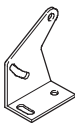
# Sensors SOE..., opto-electronic

Accessories

**FESTO**

| Ordering data – Connecting cables M8x1                                            |                 |                  |          |                     |
|-----------------------------------------------------------------------------------|-----------------|------------------|----------|---------------------|
| Technical data ➔ Internet: nebu                                                   |                 |                  |          |                     |
|                                                                                   | Number of wires | Cable length [m] | Part No. | Type                |
| Straight plug socket                                                              |                 |                  |          |                     |
|  | 3               | 2.5              | 541333   | NEBU-M8G3-K-2.5-LE3 |
|                                                                                   |                 | 5                | 541334   | NEBU-M8G3-K-5-LE3   |
|                                                                                   | 4               | 2.5              | 541342   | NEBU-M8G4-K-2.5-LE4 |
|                                                                                   |                 | 5                | 541343   | NEBU-M8G4-K-5-LE4   |
|                                                                                   |                 |                  |          |                     |
| Angled plug socket                                                                |                 |                  |          |                     |
|  | 3               | 2.5              | 541338   | NEBU-M8W3-K-2.5-LE3 |
|                                                                                   |                 | 5                | 541341   | NEBU-M8W3-K-5-LE3   |
|                                                                                   | 4               | 2.5              | 541344   | NEBU-M8W4-K-2.5-LE4 |
|                                                                                   |                 | 5                | 541345   | NEBU-M8W4-K-5-LE4   |

| Ordering data – Connecting cables M12x1                                             |                 |                  |          |                      |
|-------------------------------------------------------------------------------------|-----------------|------------------|----------|----------------------|
| Technical data → Internet: nebu, sim                                                |                 |                  |          |                      |
|                                                                                     | Number of wires | Cable length [m] | Part No. | Type                 |
| Straight plug socket                                                                |                 |                  |          |                      |
|   | 3               | 2.5              | 541363   | NEBU-M12G5-K-2.5-LE3 |
|                                                                                     |                 | 5                | 541364   | NEBU-M12G5-K-5-LE3   |
|                                                                                     | 4               | 5                | 541328   | NEBU-M12G5-K-5-LE4   |
|                                                                                     | 8               | 2                | 525616   | SIM-M12-8GD-2-PU     |
|                                                                                     |                 | 5                | 525618   | SIM-M12-8GD-5-PU     |
|                                                                                     |                 |                  |          |                      |
| Angled plug socket                                                                  |                 |                  |          |                      |
|  | 3               | 2.5              | 541367   | NEBU-M12W5-K-2.5-LE3 |
|                                                                                     |                 | 5                | 541370   | NEBU-M12W5-K-5-LE3   |
|                                                                                     | 4               | 5                | 541329   | NEBU-M12W5-K-5-LE4   |

| Ordering data – Mounting attachments                                                |                |          |             |
|-------------------------------------------------------------------------------------|----------------|----------|-------------|
|                                                                                     | For design     | Part No. | Type        |
| Mounting bracket                                                                    |                |          |             |
|  | Q20            | 537785   | SOEZ-HW-Q20 |
|                                                                                     | Q30            | 165355   | SOEZ-HW-Q30 |
|                                                                                     | Q50            | 537786   | SOEZ-HW-Q50 |
| Sensor retainer                                                                     |                |          |             |
|  | 4              | 538343   | SIEZ-NB-4   |
|                                                                                     |                |          |             |
|  | M12            | 538347   | SIEZ-NB-12  |
|                                                                                     | M18, M18W      | 538349   | SIEZ-NB-18  |
|  | M12, M18, M18W | 538354   | SIEZ-UH     |
|                                                                                     |                |          |             |
|  | M12, M18, M18W | 538355   | SIEZ-UV     |

| Ordering data – Mounting attachments |                     |          |         |
|--------------------------------------|---------------------|----------|---------|
|                                      | For design          | Part No. | Type    |
| Inscription label                    |                     |          |         |
|                                      | M12, M18, M18W, M30 | 538353   | SIEZ-LB |

| Ordering data – Fibre-optic cables                                                 |                                |          |                    |
|------------------------------------------------------------------------------------|--------------------------------|----------|--------------------|
|                                                                                    | Use                            | Part No. | Type               |
| Polymer                                                                            |                                |          |                    |
|   | RT <sup>1)</sup>               | 165358   | SOEZ-LLK-RT-2,0-M6 |
|                                                                                    | S/E <sup>2)</sup>              | 165360   | SOEZ-LLK-SE-2,0-M4 |
| Glass fibre                                                                        |                                |          |                    |
|   | RT <sup>1)</sup>               | 165356   | SOEZ-LLG-RT-0,5-M6 |
|                                                                                    | S/E <sup>2)</sup>              | 165357   | SOEZ-LLG-SE-0,5-M4 |
| Fibre-optic cable cutter                                                           |                                |          |                    |
|  | For polymer fibre-optic cables | 36479    | SOE-LKS            |

- 1) Diffuse sensor  
2) Through-beam sensor

| Ordering data – Reflectors                                                          |           |          |              |
|-------------------------------------------------------------------------------------|-----------|----------|--------------|
|                                                                                     | Size [mm] | Part No. | Type         |
| Reflector                                                                           |           |          |              |
|  | Ø 20      | 165363   | SOEZ-RFS-20  |
|                                                                                     | Ø 40      | 165364   | SOEZ-RFS-40  |
|                                                                                     | Ø 84      | 165365   | SOEZ-RFS-80  |
| Reflector foil                                                                      |           |          |              |
|  | 100 x 100 | 165362   | SOEZ-RFF-100 |
| Reflector for laser light                                                           |           |          |              |
|  | 50 x 50   | 537788   | SOEZ-RFL-50  |
|                                                                                     | 10 x 50   | 537787   | SOEZ-RFL-10  |

## Product Range and Company Overview

### A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



**Custom Automation Components**  
Complete custom engineered solutions



**Custom Control Cabinets**  
Comprehensive engineering support and on-site services



**Complete Systems**  
Shipment, stocking and storage services

### The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



**Electromechanical**  
Electromechanical actuators, motors, controllers & drives



**Pneumatics**  
Pneumatic linear and rotary actuators, valves, and air supply



**PLCs and I/O Devices**  
PLC's, operator interfaces, sensors and I/O devices

### Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

### Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



© Copyright 2008, Festo Corporation. While every effort is made to ensure that all dimensions and specifications are correct, Festo cannot guarantee that publications are completely free of any error, in particular typing or printing errors. Accordingly, Festo cannot be held responsible for the same. For Liability and Warranty conditions, refer to our "Terms and Conditions of Sale", available from your local Festo office. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of Festo. All technical data subject to change according to technical update.



Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

# Festo North America

## Festo Regional Contact Center

5300 Explorer Drive  
Mississauga, Ontario L4W 5G4  
Canada

### USA Customers:

For ordering assistance,

**Call:** 1.800.99.FESTO (1.800.993.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [customer.service@us.festo.com](mailto:customer.service@us.festo.com)

For technical support,

**Call:** 1.866.GO.FESTO (1.866.463.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [product.support@us.festo.com](mailto:product.support@us.festo.com)

### Canadian Customers:

**Call:** 1.877.GO.FESTO (1.877.463.3786)

**Fax:** 1.877.FX.FESTO (1.877.393.3786)

**Email:** [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

## USA Headquarters

Festo Corporation  
395 Moreland Road  
P.O. Box 18023  
Hauppauge, NY 11788, USA  
[www.festo.com/us](http://www.festo.com/us)

## USA Sales Offices

### Appleton

North 922 Tower View Drive, Suite N  
Greenville, WI 54942, USA

### Boston

120 Presidential Way, Suite 330  
Woburn, MA 01801, USA

### Chicago

1441 East Business Center Drive  
Mt. Prospect, IL 60056, USA

### Dallas

1825 Lakeway Drive, Suite 600  
Lewisville, TX 75057, USA

### Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320  
Auburn Hills, MI 48326, USA

### New York

395 Moreland Road  
Hauppauge, NY 11788, USA

### Silicon Valley

4935 Southfront Road, Suite F  
Livermore, CA 94550, USA

## United States



**USA Headquarters, East:** Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: [info@festo-usa.com](mailto:info@festo-usa.com)

[www.festo.com/us](http://www.festo.com/us)

## Canada



**Headquarters:** Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

[www.festo.ca](http://www.festo.ca)

## Mexico



**Headquarters:** Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,  
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: [festo.mexico@mx.festo.com](mailto:festo.mexico@mx.festo.com)

[www.festo.com/mx](http://www.festo.com/mx)

## Central USA

Festo Corporation  
1441 East Business  
Center Drive  
Mt. Prospect, IL 60056, USA  
Phone: 1.847.759.2600  
Fax: 1.847.768.9480



## Western USA

Festo Corporation  
4935 Southfront Road,  
Suite F  
Livermore, CA 94550, USA  
Phone: 1.925.371.1099  
Fax: 1.925.245.1286



## Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark  
Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan Latvia  
Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore  
Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

[www.festo.com](http://www.festo.com)