

# RAD510

## TOF/Spot

### Technical data

#### FEATURES

- ▶ Time-of-Flight (TOF) sensor
- ▶ Exact distance setting, independent from background
- ▶ Excellent detection capability
- ▶ Small and sleek design
- ▶ Operating range from 0.2 m up to 6 m
- ▶ Easy mounting
- ▶ Insensitive to ambient light up to 100,000 Lux



#### OPTICAL

|                                   |                                           |
|-----------------------------------|-------------------------------------------|
| Operating range                   |                                           |
| - P, C, T and I types             | 0.2 ... 6 m                               |
| - N type                          | 0.2 ... 3 m                               |
| Active light spot at 2 m distance | 20 mm × 20 mm                             |
| Offset                            |                                           |
| - C and T types                   | 0.15 m (from background)                  |
| Measurement precision             | ±5% at 2 m<br>±10 cm over the whole range |
| Max. ambient light                | 100,000 Lux                               |

#### MECHANICAL

|                                    |                     |
|------------------------------------|---------------------|
| Dimensions                         | Ø 29.5 mm × 35.8 mm |
| Housing material                   | Polycarbonate       |
| Housing color                      | Black               |
| Enclosure rating                   | IP65                |
| Temperature range                  | -40 °C ... +60 °C   |
| Relative humidity (non-condensing) | 0 ... 95%           |

#### ELECTRICAL

|                                                    |                                        |
|----------------------------------------------------|----------------------------------------|
| Supply voltage U <sub>sp</sub>                     | 10 ... 30 VDC                          |
| Current consumption at 24 VDC                      | 50 mA                                  |
| Peak current consumption during power up at 24 VDC | 500 mA                                 |
| Outputs                                            | Solid-state relay or dynamic universal |
| Max. switching voltage                             | 60 V                                   |
| Max. switching current                             | 150 mA                                 |
| Max. power-up time                                 | 1 s                                    |
| Max. response time                                 | 60 ms                                  |

P = Preset, C = Automatic calibration, N = Potentiometer, T = Teach-in button  
I = Initialized (Preset with potentiometer)

#### CONNECTION CABLE AND ELECTRICAL CONNECTION

|                         |                                |
|-------------------------|--------------------------------|
| <b>Sensor</b>           |                                |
| Length                  | 0.25 m                         |
| Connection              | Screwable, M8, 6-pin           |
| Diameter                | Ø 4.2 mm                       |
| Material                | PVC, black                     |
| Plug color              | Blue                           |
| <b>Connection cable</b> |                                |
| Length                  | 2 m (other lengths on request) |
| Connection              | Screwable, M8, 6-pin           |
| Diameter                | Ø 4.2 mm                       |
| Material                | PVC, black                     |
| Plug color              | Blue                           |
| Wires                   | AWG26                          |
| • brown                 | +U <sub>sp</sub>               |
| • black                 | Output A                       |
| • green                 | Output B                       |
| • blue                  | GND (0 V)                      |
| • white                 | Not used                       |
| • gray                  | Logic selector                 |

#### GENERAL

|              |                                              |
|--------------|----------------------------------------------|
| EMC emission | EN 12015:2014<br>EN 61000-6-3:2007, +A1:2011 |
| EMC immunity | EN 12016:2013<br>EN 61000-6-2:2019           |
| Vibration    | IEC 60068-2-6:2007                           |
| Shock        | IEC 60068-2-27:2008                          |
| RoHS         | 2011/65/ EU                                  |
| Certificate  | CE                                           |



CEDES AG is certified according to ISO 9001: 2015.