

## ODC 48



Eliminate Recalibration. Detect Any Material.

### Key Features

- **Zero recalibration** – sensor adapts automatically to any material (clear, opaque, metallic, nonwoven, mesh)
- **High resolution** – hardware resolution independent of sensing range
- **Material-agnostic detection** – fiber-optic technology based on light scattering and spatial filtering
- **Temperature immune** – unlike ultrasonic sensors, performance unaffected by temperature changes
- **One sensor, multiple applications** – edge guiding, width measurement, centerline detection, and more

### Benefits

- **Stop losing hours** to sensor recalibration when switching between materials
- **Eliminate changeover delays** – no manual sensor adjustments between product runs
- **End quality escapes** caused by undetected sensor drift between changeovers
- **Remove safety risks** from operators accessing sensors in awkward positions
- **Prevent hidden scrap** from temperature-related inaccuracies that plague ultrasonic sensors

## Specifications

---

|                            |                                  |                          |   |
|----------------------------|----------------------------------|--------------------------|---|
| <b>Sensor Type</b>         | Fiber Optic (diffuse-reflective) | <b>Sensing Range</b>     | 48 mm (1.9 in)                              |
| <b>Resolution</b>          | 0.0635 mm (0.0025 in)            | <b>Repeatability</b>     | >99.9%                                      |
| <b>Linearity Error</b>     | <0.25%                           | <b>Response Time</b>     | 20 ms standard, 2 ms with special firmware  |
| <b>Camera Type</b>         | CMOS line scan camera            | <b>Light Source</b>      | Infrared (880 nm), UV (385 nm), White light |
| <b>Working Distance</b>    | 15-25 mm (0.6-1 in)              | <b>Cable Length</b>      | Up to 10 m (33 ft)                          |
| <b>Connector</b>           | M12 12-pin male A Coded          | <b>Housing</b>           | PA 12 Nylon                                 |
| <b>IP Rating</b>           | IP54 (IP64 on request)           | <b>Operating Temp</b>    | -10°C to 65°C (14°F to 150°F)               |
| <b>Controller Required</b> | Yes (SCU5 or SCU6x)              | <b>Vacuum Compatible</b> | Yes   |

## Applications

---

- Edge sensing, measurement and guiding
- Centerline web position sensing, measurement and guiding
- Web width measurement and monitoring
- Thread/ribbon inspection
- Flag detection
- Registration mark detection
- Defect detection

## Compatibility

---

### SUPPORTED LINE SPEEDS

500-1000 fpm

### SUPPORTED MATERIAL TYPES

Clear Film, Nonwoven

### SUPPORTED WEB WIDTHS

Wide (48"-72"), Extra Wide (>72")

## Available Configurations

| Part Number | Configuration   |
|-------------|---|
| 3-410012    | ODC 48-IR QD (1" Mounting)  |
| 3-410022    | ODC 48-WL QD (1" Mounting)  |
| 3-410032    | ODC 48-UV QD (1" Mounting)  |
| 3-410112    | ODC 48-IR QD (1" Mounting w/Left Side Connector)                          |
| 3-410122    | ODC 48-WL QD (1" Mounting w/Left Side Connector)                          |
| 3-410132    | ODC 48-UV QD (1" Mounting w/Left Side Connector)                          |
| 3-410212    | ODC 48-IR QD (1" Mounting w/Right Side Connector)                         |
| 3-410222    | ODC 48-WL QD (1" Mounting w/Right Side Connector)                         |
| 3-410232    | ODC 48-UV QD (1" Mounting w/Right Side Connector)                         |
| 3-411012    | ODC 48-IR QD (NW 17 Rail)   |
| 3-411022    | ODC 48-WL QD (NW 17 Rail)   |
| 3-411032    | ODC 48-UV QD (NW 17 Rail)   |
| 3-412012    | ODC 48-IR QD (No Mounting)  |
| 3-412022    | ODC 48-WL QD (No Mounting)  |
| 3-412032    | ODC 48-UV QD (No Mounting)  |
| 7-020001    | 1" Mounting Bracket for WPS and ODC Sensors                               |
| 7-020004    | 1.5" Mounting Bracket for WPS and ODC Sensors                             |
| 7-020005    | Mounting Bracket for 1" or 25 mm Extrusion for WPS, ODC and 1DC Sensors   |
| 7-020006    | Mounting Bracket for 1.5" or 40 mm Extrusion for WPS, ODC and 1DC Sensors |

## Supporting Documentation

---

### Manuals (1)

- Sensor Installation Recommendations: Inspection Applications

### 2D Drawings (3)

- New Mounting Brackets for WPS, ODC and 1DC sensors - 1.5 in or 40 mm extrusion
- New Mounting Brackets for WPS, ODC and 1DC sensors - 1in or 25 mm extrusion
- ODC 48 xx-QD: 2D Drawing

### 3D Models (9)

- 1.5in Mounting Bracket for WPS and ODC Sensors
- 1in Mounting Bracket for WPS and ODC Sensors
- Mounting Bracket for 1.5in or 40mm Extrusion for WPS, ODC and 1DC Sensors
- Mounting Bracket for 1in or 25mm Extrusion for WPS, ODC and 1DC Sensors
- ODC 48-xx QD (1" Mounting w/Left Side Connector)
- ODC 48-xx QD (1" Mounting w/Right Side Connector)
- ODC 48-xx QD (No Mounting)
- ODC 48-xx QD (NW 17 Rail)
- ODC 48-xx QD w/1in Mounting Bracket

### Wiring Diagrams (4)

- SCU5 C(x)D Wiring with ODC (Industrial Ethernet)
- SCU5 D Wiring with ODC (Analog Output)
- SCU5 DD Wiring with ODC (Digital Output)
- SCU5 DI Wiring with ODC (Digital Input and Output)



Scan for datasheets, 3D models & full documentation

<https://r2r.tech/products/sensors/odc-48>

### Ready to Get Started?

Contact our experts to discuss how this product fits your application.

**Phone:** +1 (888) 290-3215 | **Email:** [experts@r2r.tech](mailto:experts@r2r.tech) | **Web:** [r2r.tech](https://r2r.tech)