

# OPT Series Color Sensors



- 12 switching outputs for evaluation of detailed color analysis thanks to spectral measurement in ROYGBV color space
- Integrated LED technology ensures ideal adjustment of light intensity
- Reliable evaluation of measured values even with distance fluctuation
- Sensor settings selectable at graphical display
- Can be operated in the scanning as well as the through-beam mode
- IP67

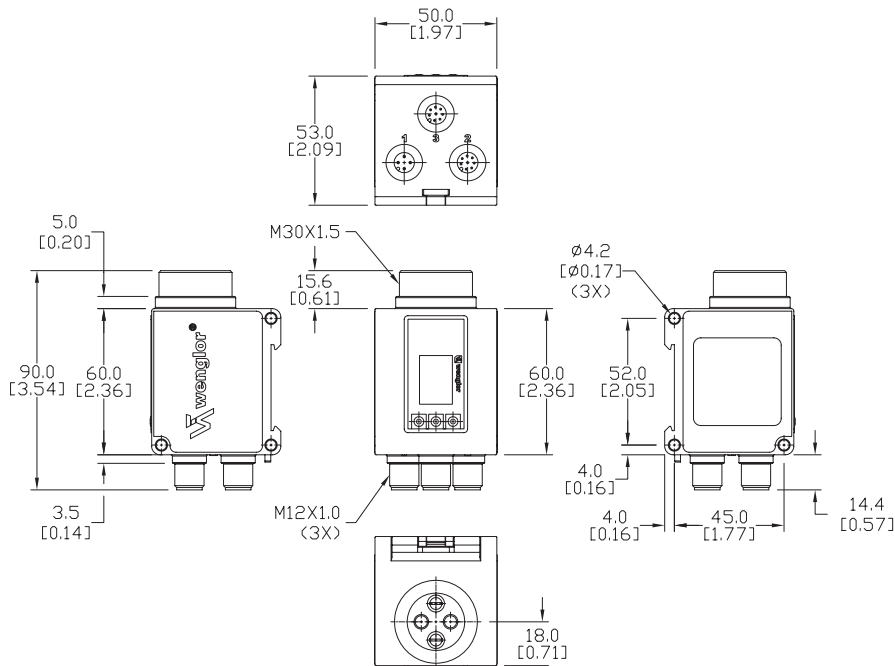
| OPT2022 Specifications               |                             |
|--------------------------------------|-----------------------------|
| <b>Part Number</b>                   | OPT2022                     |
| <b>Price</b>                         | Retired                     |
| <b>Spectral sensitivity</b>          | 450 to 700nm                |
| <b>Light source</b>                  | White light                 |
| <b>Service Life (T = +25°C)</b>      | 50,000h                     |
| <b>Max. ambient light</b>            | 10,000 Lux                  |
| <b>Operating voltage</b>             | 10 to 30VDC                 |
| <b>Supply voltage with IO-link</b>   | 18 to 30VDC                 |
| <b>No-load supply current</b>        | ~ 260mA                     |
| <b>Switching frequency</b>           | 2kHz                        |
| <b>Response time</b>                 | ~ 50µs x filter             |
| <b>On/Off delay</b>                  | 0 to 10,000 ms              |
| <b>Temperature range</b>             | -25 to 60°C [-13 to 140°F]  |
| <b>Switching outputs</b>             | 12 NPN/PNP                  |
| <b>Switching output voltage drop</b> | 1.5 V                       |
| <b>Operating (load) current</b>      | 100mA                       |
| <b>Short circuit protection</b>      | yes                         |
| <b>Reverse polarity protection</b>   | yes                         |
| <b>Digital inputs</b>                | 3                           |
| <b>Protection class</b>              | III                         |
| <b>Setting method</b>                | Teach-In                    |
| <b>Housing material</b>              | Plastic                     |
| <b>Degree of protection</b>          | IP67                        |
| <b>Connection</b>                    | 4-pin M12 and (2) 8-pin M12 |
| <b>DIN-Rail mounting</b>             | 35mm                        |
| <b>Selectable menu language</b>      | yes                         |
| <b>Operating mode</b>                | Selectable Light-on/Dark-on |
| <b>Approvals</b>                     | CE, RoHs, cULus,            |

Note: To obtain the most current agency approval information– see the Agency Approval Checklist section on the specific part number's web page.

# OPT Series Color Sensors

## Dimensions

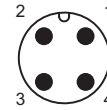
mm [inches]



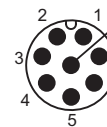
See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

## Connectors

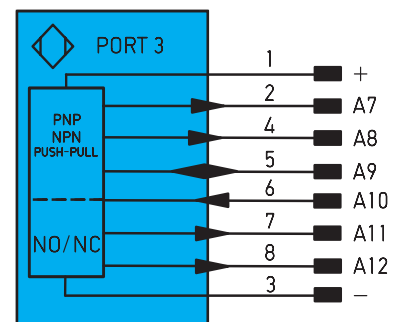
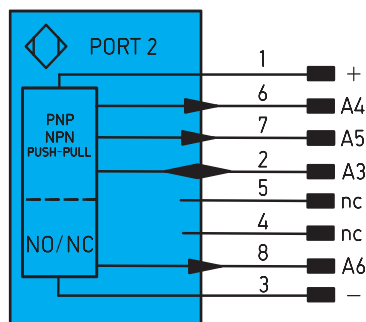
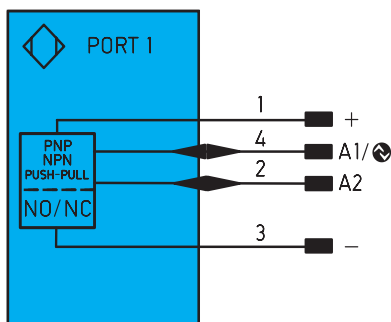
### 4-Pin M12 connector



### 8-Pin M12 connector



## Wiring Diagrams



| Legend              |                            |
|---------------------|----------------------------|
| +                   | Supply Voltage +           |
| -                   | Supply Voltage 0V          |
| A1/IO-Link          | Switching output / IO-Link |
| A4/5/6/8/9/10/11/12 | Switching output N.O./N.C. |
| A2                  | Input/A2 Switching output  |
| A3                  | Input/A3 Switching output  |
| A7                  | Input/A7 Switching output  |

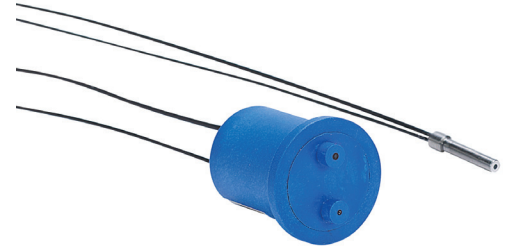
# OPT Series Color Sensors Cable

## Plastic Fiber Optic Cable

### OPT2075 Diffuse Reflex Mode

- Compatible with the [OPT2022](#) 6-channel sensor
- Designed for installation in tight spaces
- IP68

| OPT2075 Specifications                  |                            |
|---|----------------------------|
| <b>Part Number</b>                      | <a href="#">OPT2075</a>    |
| <b>Price</b>                            | Retired                    |
| <b>Drawing Link</b>                     | <a href="#">PDF</a>        |
| <b>Optical Fiber Core Ø</b>             | 0.5 mm                     |
| <b>Sensing Distance with OPT series</b> | 10mm                       |
| <b>Fiber Length (L)</b>                 | 1m                         |
| <b>Fiber Bending Radius</b>             | 15mm                       |
| <b>Spot Diameter</b>                    | 0.5 to 2 mm                |
| <b>Temperature Range</b>                | -40 to 85°C [-40 to 185°F] |
| <b>Fiber Materials</b>                  | PMMA                       |
| <b>Sleeve Materials</b>                 | PE (black)                 |
| <b>Head Materials</b>                   | Stainless steel            |
| <b>Jacket Diameter</b>                  | 1.3 mm                     |
| <b>Fiber Distribution</b>               | Coaxial arrangement        |
| <b>Opening Angle</b>                    | 55°                        |
| <b>Light Emission</b>                   | Straight                   |



# OPT Series Color Sensors Cable

## Glass Fiber Optic Cable

### OPT2087 Through-Beam Mode

| OPT2087 Specifications                  |                            |
|---|----------------------------|
| <b>Part Number</b>                      | OPT2087                    |
| <b>Price</b>                            | Retired                    |
| <b>Drawing Link</b>                     | <a href="#">PDF</a>        |
| <b>Optical Fiber Core Ø</b>             | 3mm                        |
| <b>Sensing Distance with OPT series</b> | 600mm                      |
| <b>Fiber Length (L)</b>                 | 1m                         |
| <b>Fiber Bending Radius</b>             | 50mm                       |
| <b>Free Cut</b>                         | No                         |
| <b>Head Size</b>                        | M18                        |
| <b>Temperature Range</b>                | 0 to 60°C [32 to 140°F]    |
| <b>Fiber Materials</b>                  | Glass                      |
| <b>Sleeve Materials</b>                 | Brass (CuZn) nickel-plated |
| <b>Head Materials</b>                   | Anodized aluminum          |
| <b>Fiber Diameter</b>                   | 3mm                        |
| <b>Fiber Distribution</b>               | Statistical mixture        |
| <b>Opening Angle</b>                    | 30°                        |



# OPT Series Color Sensors Cable

## Glass Fiber Optic Cable

### OPT2088 Diffuse (Reflex) Mode

| OPT2088 Specifications           |                            |
|----------------------------------|----------------------------|
| Part Number                      | OPT2088                    |
| Price                            | Retired                    |
| Drawing Link                     | <a href="#">PDF</a>        |
| Optical Fiber Core Ø             | 3mm                        |
| Sensing Distance with OPT series | 100mm                      |
| Fiber Length (L)                 | 1m                         |
| Fiber Bending Radius             | 50mm                       |
| Free Cut                         | No                         |
| Head Size                        | M30                        |
| Temperature Range                | 0 to 60°C [32 to 140°F]    |
| Fiber Materials                  | Glass                      |
| Sleeve Materials                 | Brass (CuZn) nickel-plated |
| Head Materials                   | Anodized aluminum          |
| Fiber Diameter                   | 3mm                        |
| Fiber Distribution               | Statistical mixture        |



### OPT2089 Diffuse (Reflex) Mode

| OPT2089 Specifications           |                            |
|----------------------------------|----------------------------|
| Part Number                      | OPT2089                    |
| Price                            | Retired                    |
| Drawing Link                     | <a href="#">PDF</a>        |
| Optical Fiber Core Ø             | 1.6 mm                     |
| Sensing Distance with OPT series | 18mm                       |
| Fiber Length (L)                 | 1m                         |
| Fiber Bending Radius             | 50mm                       |
| Free Cut                         | No                         |
| Head Size                        | M18                        |
| Temperature Range                | 0 to 60°C [32 to 140°F]    |
| Fiber Materials                  | Glass                      |
| Sleeve Materials                 | Brass (CuZn) nickel-plated |
| Head Materials                   | Anodized aluminum          |
| Fiber Diameter                   | 1.6 mm                     |
| Fiber Distribution               | Statistical mixture        |

