One Sensor. Infinite Possibilities

Introducing the **1DC** series of **Roll-2-Roll®** Sensors for next generation of industrial sensing. This groundbreaking all-in-one sensor combines our CMOS line scan technology with integrated processing power, eliminating the need for external controllers.

The **1DC** series harnesses our patented light scattering and spatial filtering technology. From paper to metal, clear film to composite, this intelligent sensor delivers unmatched precision across multiple applications. For customers who demand versatility without compromise, the **1DC** is the premium solution you've been waiting for.

Key Features

Material Agnostic - Clear, opaque, porous, nonwoven, metals, foils, etc.
Compact Construction - Easily installs in tight spaces
Integrated Light Source - No need for external lighting equipment and fixtures
Wide Sensing Range - Available in sizes from 96mm to 960mm
High Precision - Hardware resolution as fine as 0.0635mm or 0.0025in
IP67 Protection - Withstands harsh industrial environments
Easy Integration - EtherNet/IP, PROFINET, EtherCAT, Modbus/TCP

Applications

- Edge Position Measurement
- Multiple Edge Position Measurement
- Center Position Measurement
- Line/Contrast Position Measurement
- Width Measurement
- Coating Width Measurement
- Multiple Strip Width Measurement
- Thread/String Counting
- Flag Detection
- Splice Detection
- Tear Detection

Industries

- Plastics & Film
- Paper & Converting
- Tissue and Towel
- Corrugated Board
- Battery Manufacturing
- Textile
- Nonwoven & Sanitary Products
- Flexible Packaging
- Tag and Label
- Tire & Rubber
- Metals & Foil

Key Benefits

One Sided Sensor - Easy threading and reduce dust accumulation
Simplified Inventory - One sensor for multiple applications
Reduce Engineering Time - setup or calibration of sensors
Lower Total Cost of Ownership - Camera like performance with sensor like cost
Versatility - Comprehensive solution for a variety of sensing and measurement needs

P: +1-888-290-3215 ext 1 **E:** sales@r2r.tech **W:** https://r2r.tech/request-quote

General Specifications

Sensor Type: Fiber optic
Sensing Mode: Diffuse-reflective
Sensor Resolution: 0.0635 mm or 0.0025 in
Range mm (in): 96 (3.78), 192 (7.56), 384 (15.12), 480 (18.90), 768 (29.92), 960 (37.39)
Sensor Accuracy: Greater than 99.9%
Sensor Linearity Error: Less than 0.25%

Maximum Number of Edges: 128
Minimum Distance Between Edges: 2 mm or 0.08 in
Smallest Detectable Object: 0.25 mm or 0.01 in
Working Distance from Object: 6 - 80 mm or 0.25 in to 3 in
Background Clearance: 25 mm to 150 mm or 1 in to 6 in

Camera: CMOS Line Camera
Camera Capture Rate: 25 Hz - 1000 Hz (with special firmware)
Light Source: Infrared (880 nm), Ultraviolet (385 nm) or White light (warm white)
Light Source Type: LED, integrated
Voltage Input: 20 to 30 V DC
Current Draw: 150 mA - 1500 mA

Power Connector: M8 4-pin, Male, A-Coded
Power Cable Type: M8 4-position, axial Female to pigtail, 24 AWG
Network Connector: M8 4-position Female A-Coded
Network Cable: M8 4-position, shielded, axial Male

Primary Housing Material: Aluminum alloy
Filter Material: Acrylic (Polycarbonate)
Anti-Static Coating: Available on request

Connectivity: EtherNet/IP, PROFINET, EtherCAT, Modbus/TCP, CC-Link IE Field Basic

Min Temperature: - 10° C or 14 F
Max Temperature: 65° C or 150 F (higher temperature option available)
Relative Humidity: 20 to 85% (non condensation)
Protection Class: IP67 (IP68 Protection Class Available on Request)
Vacuum Compatibility: YES

Ready to harness the power of the **1DC** series of **Roll-2-Roll®** Sensors? We're here to guide you every step of the way. Contact one of our valued local sales partner near you for tailored assistance and support.