

### HIGHLIGHTS

#### SMART SENSORS

• Measure | Monitor | Configure | Predict

### INDUCTIVE WELD-IMMUNE & SPATTER-RESISTANT ACCESSORIES

· Revolutionary protection for long life

### PHOTOELECTRIC FULL-METAL M12 AND M18 SERIES

• Robust with excellent background suppression

#### SAFETY LIGHT CURTAINS EXTENDED SLIM

Wireless configuration via Bluetooth<sup>®</sup>

#### **RFID WITH IO-LINK**

• Tough, fast, cost-effective and easily integrated

## **PROGRAM OVERVIEW 2021**

LIVE SENSOR DATA FOR IOT 🛛 😵 IO-Link

## 😵 IO-Link 🚯 Bluetooth



ContriApp



WELD-IMMUNE



## **CONTRINEX - A WORLD OF SENSORS**

### **AT A GLANCE**

- Technology leading manufacturer of inductive and photoelectric sensors as well as Safety and RFID systems
- World market leader for miniature sensors, sensors with long operating distances and devices for particularly demanding operating conditions (all-metal, high-pressure and high-temperature resistant sensors)
- Represented in over 60 countries worldwide, headquarters in Switzerland
- ✓ 8000 products



Contrinex Headquarters, Switzerland

### **GLOBAL PRESENCE**



### **CONTRINEX PRODUCT RANGES**

#### SENSORS SMART

| INDUCTIVE SENSORS |  |
|-------------------|--|
| SMART TASKS       |  |

#### **INDUCTIVE**

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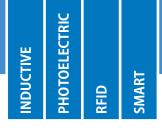
#### **RFID LOW AND HIGH FREQUENCY**

| BASIC (TAGS, RWMs)      | 25 |
|-------------------------|----|
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| IO-LINK (RWMs)          | 26 |
|                         |    |

ACCESSORIES 27

For special products see Contrinex catalog, downloadable from our website: www.contrinex.com

## ♦ IO-Link FUNCTIONALITY\*



 $\checkmark$ 

#### Data monitoring:

Switching state is monitored continuously. This not only monitors the signal itself, but also the state at 80% of the switching distance. One can therefore ensure that the sensor is not working at the limit of its specifications.

#### **Diagnosis:**

The operating state of the sensor is checked. In case of open circuit, under-voltage, LC oscillator failure or installation of the wrong sensor, information is provided directly through IO-Link to enable fast repair, maintenance and replacement.



#### **Detection counter:**

Detection events are counted. By registering the number of detections, it is possible to calculate the speed or number of parts. The counter can be reset by means of a unique **O** IO-Link message.



#### **Temperature:**

The internal temperature of the sensor is measured continuously, which provides an indication about the ambient temperature in the application. Moreover, the maximum temperature measured is saved for diagnosis and preventive maintenance purposes.



#### Switching timer:

The timing of output switching can be configured. Depending on the needs of an application, output switching can be delayed or the duration stretched through programming.



#### NO/NC selection:

The output switching mode can be selected as NO or NC. A single sensor type is configurable for the various needs of an application. This helps reduce the number of different sensor types required in stock.



#### Sensitivity and teach:

The sensitivity of the sensor can be adjusted remotely by changing the threshold. Alternatively, the teach function can be used to adapt the threshold to the application. Calibrated sensing ranges ensure easy sensor replacement by uploading the existing sensitivity to the replacement sensor.



#### Light-ON/Dark-ON selection

The output switching mode can be selected as Light-ON or Dark-ON. A single sensor type is configurable for the various needs of an application. This helps reduce the number of different sensor types required in stock.



#### Sensor mode:

Three different modes are selectable depending on the application needs: "Normal", "Fast" and "Fine". "Normal" mode is a good balance of speed and precision. In "Fast" mode, speed is higher and in "Fine" mode precision is higher.



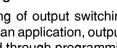
#### Sequence selection:

For cross-talk immunity with through-beam sensors, up to 9 different emitting sequences can be selected to pair the emitter with the receiver.







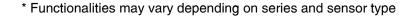












### LIVE SENSOR DATA FOR IoT



**INDUCTIVE SENSORS** 

### SMART COMMUNICATION WITH CONTRINEX SENSORS

- Continuous monitoring of process data
   Continuous diagnosis of sensor status
- Comprehensive dashboard for overview and predictive maintenance
- Plug & play solution compatible with greenfield and brownfield applications
- Data sent to the cloud with wireless signal (no need of PLC)

### **SMART SENSORS**

## **SMART SENSORS**

ິ ສຳ <sub>ໃ</sub>

MEASURE MONITOR CONFIGURE PREDICT

#### **KEY ADVANTAGES**



**High-Resolution** Measurement



Direct Device-to-Device Communication

**INDUSTRIES** 

HIGHLIGHTS



User-Configurable Embedded Predictive-Outputs

**User-Defined** 

Memory

Automation, packaging, robotics, automotive, green energy, envi-

ronment, logistics, machine tools, electronic assembly, food and



beverage, textiles, materials handling

Multiple sensing modes in a single sensor:



**Maintenance Features** 



**Dual Channel** 



Spindle-cutting machine tool



Metal recycling equipment



Conveyor systems



Robotics for pick-and-place

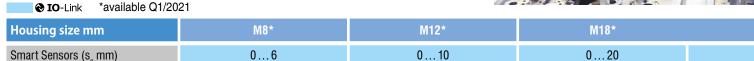


#### ✓ Indirect measurement: Angular measurement, lateral position measurement (inclined plane), force measurement, vibration measurement, step counting Exceptional versatility optimizes spares inventory Condition-based self-monitoring minimizes maintenance costs

✓ Direct measurement: Distance measurement, lateral

position measurement (constant distance), feature detection

- ✓ Localized D2D process logic enables sensor-based decision-
- making
- Unique embedded sensor ID eliminates installation errors ✓



6 | Detailed data sheets for these products can be found on the Contrinex website:



## **SMART SENSORS**

LINEAR GUIDE

**SMART TASKS** 

Reliable position

sensing on high-

speed approach

during final stage

positioning

User-configured

, positioning

setpoints ensure

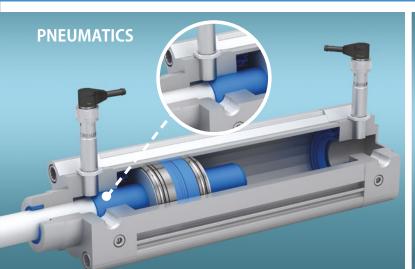
precise window-mode

High-accuracy lateral

position measurement

**HIGH-POWERED** CONNECTED **INTELLIGENCE** 

LIVE SENSOR **DATA FOR IoT** 



#### **SMART TASKS**



- High-resolution measurement of lateral piston displacement Repeated high
  - speed displacement measurement at timed intervals



**SPINDLE** 

Generation of velocity gradient using on-board cumulative data store



Local storage of sensor configurations, allowing plug-and-play replacement when needed

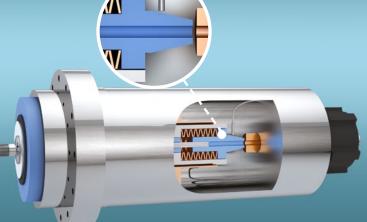
Monitor temperature,

cycle count for

vibration and process

maintenance purposes

communication with central control system for time-critical events



#### **SMART TASKS**



Precision real-time measurement of drawbar position



User-configured setpoints ensure accurate end-of-travel

position sensing



High-speed notification of time-critical events



Self-test function guards against sensor failure

Threshold alarms identify

Sensor configuration is

on the local IO-Link

backed-up automatically

of service life

Master

over-temperature and end



**)** 

RECYCLING



#### **SMART TASKS**



Multi-mode target recognition at constant target distance

Unique embedded

installation error

sensor ID eliminates



High-speed localized communication with air-knife actuators



- Sensor configuration is backed-up automatically

96 📰



Unique embedded sensor ID eliminates

on the local IO-Link

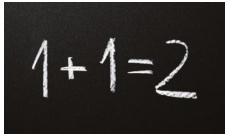
- Cumulative cycle/target
  - counting in each of two modes Threshold alarms identify
  - over-temperature and end of service life
  - Sensor configuration is backed-up automatically on the local IO-Link Master

### EXCELLENCE IN NORMAL ENVIRONMENTS BASIC

#### **KEY ADVANTAGES**

- ✓ Exceptional price/performance ratio
- ✓ Excellent accuracy
- ✓ Outstanding switching-point stability
- ✓ Vibration and shock resistant





Textile spinning machine automation



#### **INDUSTRIES**

Automotive production and supply, machine tool, energy, packaging, logistics, materials handling, textile, assembly, automation

### HIGHLIGHTS

#### C44 SERIES

- ✓ Highly flexible sensor solution
- ✓ Suitable for rough environments, IP68/IP69K impervious

✓ One-piece stainless steel housing (sensing face included)

- ✓ Active face mountable in 5 directions
- ✓ Long operating distances

**FULL INOX BASIC** 

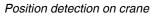
and Contrinex ASIC

✓ Easy click-and-lock mounting

✓ Factor 1 on steel and aluminum

✓ Practically indestructible sensor







Wind turbine speed monitoring



Presence sensing in automotive factory



| E | XTRA DISTANCE  |
|---|--|
| ✓ | Up to 4-times standard operating distance, proven for more |
|   | than 20 years across the world's largest installed base    |

- than 20 years across the world's largest installed base ✓ Outstanding lifetime and electromagnetic compatibility due to Condist<sup>®</sup> technology and Contrinex ASIC
- ✓ Special material detection (e.g. carbon fiber)



| <b>OID</b> -Link |              |       |            |     |       |       |       |
|------------------|--------------|-------|------------|-----|-------|-------|-------|
| Housing size mm  | Ø <b>6.5</b> | M8    | <b>C</b> 8 | M12 | M18   | M30   | C44   |
| Classics         | 1.5 2        | 1.5 4 | 1.5 2      | 28  | 512   | 10 25 | 15 40 |
| Extra Distance   | 3            | 36    | 3          | 610 | 12 20 | 22 40 | -     |
| Full Inox        | -            | 2     | -          | 3   | 5     | 10    | -     |

8 | Detailed data sheets for these products can be found on the Contrinex website:

✓ Outstanding lifetime and robustness due to Condet<sup>®</sup> technology



WORLD'S SMALLEST LIVE SENSOR **DATA FOR IoT** 

### FULL FUNCTIONALITY, SMALLEST SIZE **MINIATURE**

#### **KEY ADVANTAGES**

- ✓ Smallest self-contained inductive sensors with **⊗ IO**-Link on the market
- ✓ Ideal for mounting where space is limited
- ✓ Outstanding temperature stability from -25°C (-13°F) to +70°C (+158°F) or +85°C (+185°F) for Full Inox types
- ✓ Sensor weight as low as 15g
- Electronics vacuum potted for optimum long-term reliability under high stress

#### **INDUSTRIES**

Machine tool, vehicles, assembly, automation, robotics, micromechanics, special purpose machines

### HIGHLIGHTS

#### ΜΙΝΙΜΙΝΙ

- ✓ Embeddable ultraminiature device
- ✓ Housing length 12 mm, 3 mm diameter, stainless steel V2A
- ✓ Increased operating distance: 1 mm
- ✓ High switching frequency up to 8,000 Hz

#### FULL INOX MINIATURE

- ✓ Outstanding lifetime and robustness due to Condet<sup>®</sup> technology and Contrinex ASIC
- One-piece stainless steel housing (sensing face included)
- ✓ Long operating distances
- ✓ Factor 1 on steel and aluminum
- ✓ Pressure resistant up to 120 bar (1740 psi)

#### **EXTRA DISTANCE**

- ✓ Long operating distances, proven for more than 20 years across the world's largest installed base
- Outstanding lifetime and electromagnetic compatibility due to Condist<sup>®</sup> technology and Contrinex ASIC

|                 |            |       |            | EN A    | I COLORADO IN |
|-----------------|------------|-------|------------|---------|---------------|
| 🚷 IO-Link       |            |       |            |         |               |
| Housing size mm | Ø <b>3</b> | M4    | Ø <b>4</b> | M5      | C5            |
| Classics        | 0.6 1      | 0.6 1 | 0.8 1.5    | 0.8 1.5 | 0.8 1.5       |
| Extra Distance  | -          | -     | 2.5        | 2.5     | -             |
| Full Inox       | _          | -     | 3          | 3       | -             |



Robotics for pick-and-place



Linear drive technology



Machine tool position control



Textile spinning machine automation





cm

### EXTREME DURABILITY IN HARSH ENVIRONMENTS EXTREME

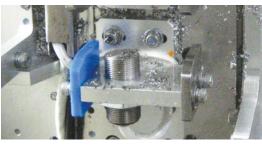
**KEY ADVANTAGES** 

- ✓ One-piece stainless-steel housing
- ✓ Mechanically and chemically extremely robust
- ✓ Corrosion resistant
- ✓ IP68 and IP69K, water resistant
- ✓ Pressure resistant up to 100 bar (1,451 psi)
- ✓ Factor 1 on steel and aluminum





Tools for machining metal components



Mixing, lifting and tipping mechanisms

#### **INDUSTRIES**

Automotive production and supply, machine tool, maritime, vehicles, packaging, logistics, materials handling

#### 🛛 😧 IO-Link

| Housing size mm               | M8 | M12 | M18 | M30  | C23 |
|-------------------------------|----|-----|-----|------|-----|
| Full Inox (s <sub>n</sub> mm) | 36 | 215 | 520 | 1040 | 7   |

### ANALOG OUTPUT FOR DISTANCE CONTROL ANALOG OUTPUT

#### **KEY ADVANTAGES**

- ✓ Longest sensing ranges
- ✓ Best temperature stability
- ✓ Excellent repeat accuracy
- ✓ Resolution in  $\mu$ m range
- ✓ Current or voltage output

#### **INDUSTRIES**

Machine tool, packaging, logistics, materials handling, textile, printing, metal sorting, quality control, vibration monitoring

| Housing size mm                    | C8 | M8 | M12 | M18 | M30 |
|------------------------------------|----|----|-----|-----|-----|
| Extra Distance (s <sub>n</sub> mm) | 04 | 04 | 06  | 020 | 040 |



Distance monitoring for position control



Drive-belt tension monitoring



### PRESSURE RESISTANT UP TO 200 BAR (2901 PSI)

## **EXTRA PRESSURE**

#### **KEY ADVANTAGES**

- ✓ Pressure resistant up to 200 bar (2,901 psi)
- Mechanically and chemically rugged
- ✓ Impervious: IP68
- ✓ Gas-tight sensing face
- Miniature devices



Micromechanical grippers



Pump and valve control



#### **INDUSTRIES**

Automotive production and supply, machine tool, energy, pneumatics, lubrication systems, pumps, valves

#### 🚷 IO-Link

| Housing size mm   | Ø 3 | Ø 4 | M5  | Ø 6.5 |
|-------------------|-----|-----|-----|-------|
| E Classics        | 0.8 | 0.6 | 0.6 | -     |
| Se Extra Distance | -   | -   | _   | 2.5   |

### PRESSURE RESISTANT UP TO 500 BAR (7255 PSI) HIGH PRESSURE

#### **KEY ADVANTAGES**

- ✓ Highest operating (500 bar / 7,255 psi) and peak pressure (1,000 bar / 14,510 psi) on the market
- ✓ Resistant to pressure cycles: 50 times longer lifetime under pressure than the market standard
- ✓ Gas-tight sensing face
- ✓ Large temperature range -25°C (-13°F) ... +100°C (+212°F)

#### **INDUSTRIES**

Automotive production and supply, machine tool, energy, maritime, hydraulic and fluid power, concrete pumps, injection molding machines

# IO-Link Housing size mm M5 / P5 M8 / P8 M12 / P12 M14 / P20 Extra Distance 1 1.5 1.5...2.5 3 Full Inox 1.5





Hydraulic cylinder control with sensors



Valve control for concrete pumps



### TEMPERATURE RESISTANT UP TO +120°C (+248°F) EXTRA TEMPERATURE

**KEY ADVANTAGES** 

- ✓ Temperature resistant up to +120°C (+248°F)
- ✓ Excellent long term reliability
- ✓ Outstanding accuracy



Aircraft door monitoring



Automotive part sensing



#### **INDUSTRIES**

Automotive production and supply, machine tool, energy, aerospace

#### 🚷 IO-Link

| Housing size mm              | M5  | M8 | M12 | M18 |
|------------------------------|-----|----|-----|-----|
| Classics (s <sub>n</sub> mm) | 0.8 | 4  | 24  | 5   |

### TEMPERATURE RESISTANT UP TO +230°C (+446°F) HIGH TEMPERATURE

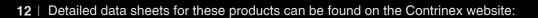
#### **KEY ADVANTAGES**

- ✓ Highest long-term stability due to fully potted electronics
- ✓ 100 % silicone-free
- ✓ Long sensor life
- ✓ Reliable sensing in high temperature applications
- Compact construction with integral amplifier for temperatures up to +180°C (+356°F)
- ✓ External amplifier module for temperatures up to +230°C (+446°F)

#### **INDUSTRIES**

Automotive production and supply, paintshops, surface treatment, bakery equipment

| Housing size mm              | M8 | M12   | M18 | M30     | M50 |
|------------------------------|----|-------|-----|---------|-----|
| Classics (s <sub>n</sub> mm) | 2  | 3 / 4 | 5   | 10 / 15 | 25  |





Automated bakery equipment



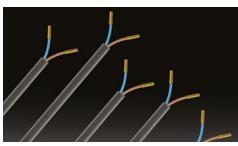
Paintshop in automotive industry



### **EASY INSTALLATION AND HIGH** SWITCHING FREQUENCY 2-WIRE

#### **KEY ADVANTAGES**

- ✓ Two-wire sensors for series connection
- ✓ Sizes from Ø 3 mm to M30 and 5 x 5 mm
- ✓ DC and AC/DC types
- ✓ NAMUR types with switching frequencies up to 10,000 Hz



Automotive part sensing



Spindle-cutting machine tool

#### **INDUSTRIES**

Automotive production and supply, machine tool, packaging, logistics, materials handling, textile

| Housing size mm              | Ø 3 | M4  | Ø 4 | M5  | C5  | Ø 6.5 | M8           | M12      | M18      | M30        |
|------------------------------|-----|-----|-----|-----|-----|-------|--------------|----------|----------|------------|
| Classics (s <sub>n</sub> mm) | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 1.5   | 1.5 /<br>2.5 | 2 /<br>4 | 5 /<br>8 | 10 /<br>15 |

## FOR SHIPS, PORTS AND OFFSHORE MARITIME

#### **KEY ADVANTAGES**

- ✓ GL approved, class DNV-GL-CG-0339
- ✓ Special EMC protection
- ✓ Resistant to corrosion and salt water
- ✓ Impervious, enclosure rating IP68 or IP69K
- ✓ Temperature range -25°... +85°C (-13°... +185°F)
- ✓ Full Inox types: one-piece stainless-steel housing (V4A/AISI 316L), factor 1 on steel and aluminum
- ✓ Pressure-resistance available up to 500 bar (800 bar peak)

#### **INDUSTRIES**

Maritime, machine tool, energy, vehicles, ships, port and offshore installations

#### **O**IO-Link M30 P12G Housing size mm M12 M18 C23 **Full Inox** 6 10 20 1.5 7 0.6 Classics





Wear monitoring, propeller shaft



Machinery spaces in ships





TOUGHER, TRIED-AND-TESTED LIVE SENSOR

### REVOLUTIONARY PROTECTION FOR LONG LIFE WELD-IMMUNE

**KEY ADVANTAGES** 



#### **ANTI-SPATTER COATING**

Activstone<sup>™</sup> coating on all external surfaces resists weld spatter in spot, MIG and MAG applications.



#### **WELD-FIELD IMMUNITY**

Contrinex sensors resist magnetic interference from medium-frequency weld fields, current up to 15 kA.



With one-piece stainless-steel housings and Condet<sup>®</sup> technology, Full Inox sensors offer maximum impact resistance.





Welding cell in automotive factory



OEM welding equipment



Automotive production and supply



Welding equipment

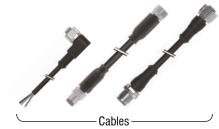


#### **INDUSTRIES**

Automotive production and supply, welding equipment

| 🛛 😵 IO-Link *availa           | able Q2/2021 |     |     |     |     |
|-------------------------------|--------------|-----|-----|-----|-----|
| Housing size mm               | M8           | M12 | M18 | M30 | C23 |
| Full Inox (s <sub>n</sub> mm) | 3            | 6   | 10  | 16  | 7   |
| *Classics (s <sub>n</sub> mm) | 2            | 4   | 8   | -   | -   |

#### ACCESSORIES





Protective tubes -



Mounting brackets

### FOR THE HARSHEST MACHINING ENVIRONMENTS CHIP-IMMUNE

#### **KEY ADVANTAGES**

- ✓ Detection not influenced by chips of steel, stainless steel, aluminum, brass, copper or titanium
- ✓ Detection of targets made of the above metals
- ✓ Robust, one-piece stainless-steel housing, protection rating IP68 and IP69K
- ✓ Temperature range -25°to +85°C (-13°to +185°F)
- ✓ Size M12, M18 and M30
- ✓ Operating distances up to 12 mm





Tools for machining metal parts



Metal recycling equipment



#### INDUSTRIES

Automotive production and supply, machine tool

#### 🛛 😧 IO-Link

| Housing size mm               | M12 | M18 | M30 |
|-------------------------------|-----|-----|-----|
| Full Inox (s <sub>n</sub> mm) | 3   | 5   | 12  |

### DOUBLE-SHEET DETECTION IN METALWORKING DOUBLE-SHEET

#### **KEY ADVANTAGES**

- ✓ Double-sheet detection (steel and aluminum) with sensitivity of 0.8–1.2 mm per sheet
- ✓ Full Inox: extremely robust one-piece stainless-steel housing
- ✓ Corrosion resistant
- ✓ IP68 and IP69K
- ✓ Pressure resistant up to 80 bar

#### **INDUSTRIES**

Automotive production and supply, machine tool, surface treatment, stamping and forming, aluminum industry

| Housing size mm               | M30 |
|-------------------------------|-----|
| Full Inox (s <sub>n</sub> mm) | 35  |





Robot handling of sheet metal



Double-feed prevention for formed parts



### ECOLAB APPROVED FOR HARSHEST CLEANING PROCESSES WASHDOWN

#### **KEY ADVANTAGES**

- ✓ Corrosion resistant
- ✓ Food safe
- ✓ IP68/IP69K protection
- Extremely rugged Full Inox types: one-piece stainless-steel housing, factor 1 on steel and aluminum, Ecolab approved

#### **INDUSTRIES**

Food and beverage, packaging, logistics, materials handling, pharmaceutical industry, industrial cleaning systems

#### 🚷 IO-Link

| Housing size mm | M12 | M18  | M30  |
|-----------------|-----|------|------|
| E Full Inox     | 610 | 1020 | 2040 |
| Classics        | 2   | -    | -    |

## **ULTRASONIC SENSORS**

### **IDEAL FOR LIQUID OR GRANULAR TARGETS**

#### **KEY ADVANTAGES**

- ✓ Precise control of position, distance, height and level
- ✓ Sensing ranges up to 6,000 mm
- ✓ Diffuse and reflex types
- ✓ Robust housings in food-grade stainless steel or plastic, IP67
- ✓ M18 in standard or short housing
- ✓ M30 in standard housing or with large front
- ✓ Various output types





Level monitoring in plastic production



#### Liquid level sensing in food industry



#### INDUSTRIES

Packaging, logistics, materials handling, food and beverage, agriculture, filling machines

\* Metal or plastic housing \*\* Plastic housing

| Metal of plastic fie | using rid             | istie neusing            |                          |                      |
|----------------------|-----------------------|--------------------------|--------------------------|----------------------|
| Housing size<br>mm   | M18<br>short housing* | M18<br>standard housing* | M30<br>standard housing* | M30<br>large front** |
| E Diffuse            | 300 / 1,200           | 900 / 2,000              | 2,500 / 3,500            | 6,000                |
| Ge Reflex            | 300 / 1,200           | 900 / 2,000              | -                        | -                    |

**16** | Detailed data sheets for these products can be found on the Contrinex website:







Brewery production equipment



### FIRST-CLASS PERFORMANCE FOR GENERAL USE **STANDARD**

#### **KEY ADVANTAGES**

- ✓ First-class sensing ranges
- ✓ Outstanding background suppression characteristics
- ✓ Light sources: red, infrared, laser and pinpoint LED

#### **INDUSTRIES**

Automotive production and supply, machine tool, packaging, logistics, materials handling, food and beverage, textile

### HIGHLIGHTS

#### **C23 SERIES**

- ✓ Small plastic housing, 20 x 30 x 10 mm
- Excellent background suppression characteristics with pinpoint LED
- ✓ Mutual interference immunity
- ✓ Versions available with stability alarm as second output
- ✓ Enclosure rating IP67, Ecolab approved

#### **M18P SERIES**

- ✓ Short housing: M18 x 33 mm (cable version), M18 x 37 mm (connector version)
- Excellent background suppression characteristics with pinpoint LED
- ✓ Mutual interference immunity
- Easy flush mounting
- ✓ Easy-to-mount special accessories for right-angle emission



Textile spinning machine automation









Conveyor systems



|       | <b>O</b> IO-Link *av      | vailable in Q4 | 21 **availa       | ble in Q3 21 |               |                   |                  |                   |                   |                  |
|-------|---------------------------|----------------|-------------------|--------------|---------------|-------------------|------------------|-------------------|-------------------|------------------|
|       | SERIES<br>Housing size mm | M12M*<br>M12   | 1120<br>M12       | M18P<br>M18  | M18M**<br>M18 | 1180<br>M18       | C23<br>□20×30×10 | 3030<br>□30×30×15 | 4050<br>□40×50×15 | C55<br>□50×50×23 |
|       |                           | 8              |                   |              |               |                   | Pittan 1         | E                 |                   |                  |
|       | Diffuse                   | 800            | 300               | 1,200        | 1,200         | 250/600           | 1,500            | 600/1,200         | 1,200             | -                |
|       | Reflex                    | 4,000          | 1,500             | 7,000        | 7,000         | 2,000             | 8,000            | 2,000/4,000       | 4,000             | -                |
| s, mm | Through-beam              | 10,000         | 10,000/<br>50,000 | 30,000       | 30,000        | 20,000/<br>50,000 | 30,000           | 6,000/<br>12,000  | 50,000            | -                |
|       | Background suppression    | -              | -                 | 250          | 250           | 120               | 300              | 200               | 500               | 5,000            |

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WORLD-LEADING BACKGROUND **SUPPRESSION** LIVE SENSOR

WORLD'S SMALLEST LIVE SENSOR DATA FOR IoT

# SMALLEST ON THE MARKET

#### **KEY ADVANTAGES**

#### D04/M05/0507 series:

- ✓ Rugged diffuse or through-beam sensors in steel housing:
   Ø 4 mm, M5 or 5 mm x 7 mm x 40 mm
- ✓ Extremely compact self contained photoelectric sensors
- Accurate target detection due to focused red light beam

#### C12 series:

- ✓ Plastic housing, 13 mm x 21 mm / 27 mm x 7 mm
- ✓ Red pinpoint LED, small visible light spot
- ✓ Long sensing ranges
- ✓ Excellent background suppression up to 120 mm with 3-turn potentiometer



Micromechanical grippers



#### **INDUSTRIES**

Packaging, logistics, materials handling, assembly, automation, robotics, precision engineering, semiconductors, electronics, vending machines, miniature conveyors, grippers

### HIGHLIGHTS

#### **D04 SERIES**

✓ Embeddable housing in stainless steel V2A, Ø 4 mm

✓ Embeddable housing in stainless steel V2A, threaded M5

- ✓ Calibrated sensing ranges
- ✓ Teach available with extended type
- ✓ High switching frequency

✓ Calibrated sensing ranges

✓ High switching frequency

✓ Teach available with extended type

✓ Connection by cable or M8 pigtail

- ✓ Connection by cable or M8 pigtail
- ✓ Enclosure rating IP67

cm

#### PCB component presence check



#### Detection of small parts



| SERIES<br>Housing size mm          | <b>D04</b><br>Ø4   | <b>M05</b><br>M5   | <b>0507</b><br>□ 5x7x40 | <b>C12</b><br>□ 13x21/27x7 |
|------------------------------------|--------------------|--------------------|-------------------------|----------------------------|
|                                    |                    |                    |                         | Į                          |
| Diffuse                            | 12 / 24 / 60 / 120 | 12 / 24 / 60 / 120 | 20 / 50 / 90            | -                          |
| E Background suppression<br>Reflex | -                  | -                  | -                       | 15 / 30 / 120              |
| ີ່ຈ <sup>ະ</sup> Reflex            | -                  | -                  | -                       | 3,000                      |
| Through-beam                       | 600                | 600                | -                       | 2,000                      |

18 | Detailed data sheets for these products can be found on the Contrinex website:

✓ Enclosure rating IP67

**OIO**-Link

**M05 SERIES** 

✓ Large selection of types, including

liquid-level monitoring, low-and

✓ Diffuse or through-beam sensing,

Synthetic fibers with bending radii

from 2 mm, suitable for cutting on-site

high-temperature

axial or radial

cylindrical light beam, multi-beam,

# RELIABLE SHORT AND LONG-RANGE SENSING FIBER-OPTIC

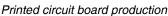
**Fibers** 

#### **KEY ADVANTAGES**

#### **Fiber-optic sensors**

- ✓ Robust 3030 series (30 mm x 30 mm x 15 mm)
- ✓ DIN-rail mounted 3060 series (31 mm x 60 mm x 10 mm) suitable for multiple-sensor applications
- ✓ Distance setting by potentiometer or teach-in







Presence sensing by industrial robot

#### **INDUSTRIES**

Packaging, logistics, materials handling, robotics, precision engineering, printed circuit board production, electronics, vending machines, special machinery, quality control

#### 🚷 IO-Link

| SERIES                                    | <b>3030</b> | <b>3060</b> | <b>4040</b> |
|---|-------------|-------------|-------------|
| Housing size mm                           | □ 30x30x15  | □ 30x60x10  | □ 40x40x19  |
| Fiber-optic amplifier (s <sub>n</sub> mm) | 60 / 120    | 200         | 150         |



### HIGH PRECISION AND DIRECT DIGITAL TRANSMISSION DISTANCE

#### **KEY ADVANTAGES**

#### C23 Distance measuring sensors

- ✓ Two distance measurement ranges: 20...80 mm and 30...200 mm
- ✓ Housing 20 mm x 34 mm x 12 mm
- ✓ High precision and repeatability
- Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67/IP69K

#### C55 distance measuring sensors

- ✓ Distance measurement up to 5,000 mm
- ✓ Housing 50 mm x 50 mm x 23 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67/IP69K, Ecolab approved

#### **INDUSTRIES**

Packaging, logistics, materials handling, woodworking industry, quality control, precision engineering, printed circuit board production

#### 🚷 IO-Link

| SERIES<br>Housing size mm | <b>C23</b><br>□ 20x34x12 | <b>C55</b><br>50x50x23 |
|---------------------------|--------------------------|------------------------|
| E Short range             | 80 / 100 / 200           | -                      |
| ີ່ Medium range           | -                        | 5,000                  |



Position control in furniture factory



Sensing and measuring shelf space



#### OUTSTANDING RELIABILITY AND EASE OF ADJUSTMENT

## **TRANSPARENT OBJECT**

#### **KEY ADVANTAGES**

- ✓ Light sources: UV and red LED
- ✓ Highly reliable reflex system
- ✓ C23 plastic housing, 20 mm x 30 mm x 10 mm
- ✓ ♦ IO-Link interface available on PNP types
- ✓ Versions available with stability alarm as second output
- ✓ Adjustment by teach or **⊗ IO**-Link
- ✓ Mutual interference immunity
- ✓ Enclosure rating IP67, Ecolab approved

#### **INDUSTRIES**

Packaging, logistics, materials handling, food and beverage, filling machines, pharmaceutical industry

### HIGHLIGHTS

#### **C23 TRANSPARENT UV**

With Contrinex's patented UV technology, these sensors are ideally suited for the presence control of transparent objects.

- Extremely reliable detection thanks to strong absorption of UV light by plastic and glass material
- ✓ Easy sensor set-up, even for thinnest transparent objects
- ✓ Low environmental sensitivity minimizes threshold adjustments and maximizes uptime
- ✓ Autocollimated, polarized UV light beam eliminates blind zone, allowing detection of targets close to the sensor or through a small notch
- ✓ Sensing range up to 1,200 mm

#### **C23 TRANSPARENT STANDARD**

For applications requiring the detection of thicker or larger transparent objects, these sensors provide a highly favorable price-performance ratio.

- ✓ Red polarized light source
- ✓ Calibrated sensing range up to 5,000 mm
- ✓ Sensitivity adjustment via teach button, € IO-Link or potentiometer

DETECTION LIVE SENSOR **DATA FOR IoT** 

**MOST RELIABLE** 

TRANSPARENT OBJECT

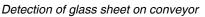


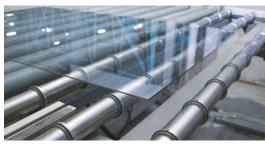
Detection of clear plastic bottles



Pharmaceutical vial processing







| 😧 IO-Link                  |                            |               |  |
|----------------------------|----------------------------|---------------|--|
| SERIES<br>Housing size mm  | C23 UV Light<br>□ 20x30x10 | C23 Red Light |  |
| Reflex (s <sub>n</sub> mm) | 1,200                      | 5,000         |  |

20 | Detailed data sheets for these products can be found on the Contrinex website:







## EXCELLENT RESOLUTION FOR SMALLEST VARIATIONS

## **COLOR AND CONTRAST**

#### **KEY ADVANTAGES**

- ✓ Rugged housing, 40 mm x 50 mm x 15 mm
- ✓ Connector adjustable at 0°, 45° and 90°
- ✓ 5 switching tolerance levels

#### **INDUSTRIES**

Packaging, logistics, materials handling, food and beverage, filling machines, printing, quality control, sorting processes, tobacco industry, wood processing machines

### HIGHLIGHTS

#### **COLOR SENSORS**

Color sensors utilize energetic-diffuse sensing technology to detect variations in target color, allowing color sorting or color control. A "teach-in" function is used to program up to three separate outputs. Five selectable tolerance levels for each output enable sensors to recognize or ignore even the smallest variations of color.

- ✓ 3 color teach channels with independent outputs
- ✓ High positioning tolerance
- ✓ High switching frequency: up to 4 kHz

#### **CONTRAST SENSORS**

Contrast sensors are ideal for detecting print marks in printing, labelling and packaging processes. Excellent contrast resolution, a high switching frequency (up to 10 kHz) and five tolerance levels ensure accurate detection and positioning, even when contrast differences are minimal.

- Detection of very small print marks thanks to a narrow, collimated light spot
- RGB emission technology with best emission color automatically selected
- Excellent tolerance to target distance variations
- ✓ High switching frequency: up to 10 kHz



Color sorting on drinks conveyor



Detection of anodized products





Detection of marks on cartons



Print-mark detection on label machine



| SERIES<br>Housing size mm   | <b>4050 Color</b><br>□ 40x50x15 | <b>4050 Contrast</b><br>□ 40x50x15 |
|-----------------------------|---------------------------------|------------------------------------|
| Diffuse (s <sub>n</sub> mm) | 40                              | 12                                 |

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Measurement grids: ✓ Ideal for position and

dimension control

✓ Analog output 0-10 V or

12 mm

4-20 mA

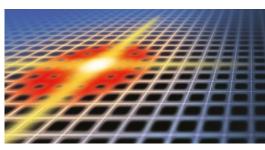
Center beam spacing: 5 mm or

✓ Measurement height: up to 1,418 mm

## FAST DETECTION, COUNTING AND MEASUREMENT

## LIGHT GRIDS





Counting of small objects



Carton measurement and sorting

#### Ideal for detection and counting of

even the smallest objects
✓ Resolution: 0.9 mm, 2 mm, 4 mm, 8 mm or 25 mm

**KEY ADVANTAGES** 

**Detection grids:** 

 $\checkmark$ 

 ✓ Fast response time 0.8 ms...4.8 ms

✓ Detection height: up to 2,010 mm

#### **INDUSTRIES**

Packaging, logistics, materials handling, assembly, automation, laundry industry, small parts production, woodworking industry

| SERIES<br>Housing size mm | <b>DGI</b><br>40x20.5xH | <b>MGI</b><br>□ 40x20.5xH |
|---------------------------|-------------------------|---------------------------|
| E Detection grids         | 8,000                   |                           |
| Ge Measurement grids      |                         | 4,000                     |

### ROBUST SPACE-SAVING DESIGN OFFERS VERSATILITY AND SIMPLICITY FORK SENSORS

#### **KEY ADVANTAGES**

- ✓ High resolution: Ø 0.1–0.2 mm
- ✓ High frequency up to 14 kHz
- ✓ 4 sensor modes: Standard, High Resolution, Power, Speed
- ✓ ♦ IO-Link v1.1
- ✓ Sensitivity adjustment allowing detection of transparent objects
- ✓ Compact design accommodates photoelectric emitter and receiver in a single housing
- Push-pull output keeps inventory costs down while allowing exceptional flexibility
- ✓ Robust space-saving housing ensures precise alignment requiring no on-site adjustment

#### **INDUSTRIES**

Robotics, packaging, materials handling, logistics, food and beverage

| O IO-Link                        |                   |                   |                   |                   |                   |                    |                     |                     |  |
|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|---------------------|---------------------|--|
| SERIES<br>Housing size mm        | U 10<br>□25×45×10 | U 20<br>□40×50×10 | U 30<br>□50×60×10 | U 40<br>□60×70×10 | U 50<br>□70×80×10 | U 80<br>□100×80×10 | U 100<br>□120×80×10 | U 120<br>□144×90×12 |  |
| Through-beam (s <sub>n</sub> mm) | 10                | 20                | 30                | 40                | 50                | 80                 | 100                 | 120                 |  |

22 | Detailed data sheets for these products can be found on the Contrinex website:



Robotics



Beverage filling machines



## **SAFETY LIGHT CURTAINS**

## EXCELLENT PRICE/PERFORMANCE RATIO BASIC STANDARD / SLIM

Light curtains are TÜV, CE and UL-certified according to IEC 61496-1 and -2 and ISO 13849-1. Protective heights range from 142 to 1,827 mm with permanent auto-control and low power consumption. The aluminum housings are slim (26 mm x 26 mm) or standard (42 mm x 48 mm) and connection is via an integral 5-pin M12 connector or pigtail.



|       |       | RESOLUTION MM     | HOUSING  | CATEGORY | KEY ADVANTAGES  |
|-------|-------|-------------------|----------|----------|---|
|       | Î 👝 📴 | 14                | STANDARD | Cat. 4   | <ul> <li>✓ Max. operating range 3.5 m</li> <li>✓ Operating temperature -35 +60°C</li> <li>✓ IP65, IP67</li> </ul>   |
|       |       |                   | STANDARD | Cat. 4   | <ul> <li>✓ Max. operating range 12 m</li> <li>✓ Operating temperature -35 +60°C</li> <li>✓ IP65, IP67</li> </ul>  |
| BASIC |       | 30                | STANDARD | Cat. 2   | <ul> <li>✓ Max. operating range 12 m</li> <li>✓ Operating temperature 0 +50°C</li> <li>✓ IP65, IP67</li> </ul>  |
|       |       |                   | SLIM     | Cat. 2   | <ul> <li>✓ No blind zone</li> <li>✓ Flexible mounting and connection</li> <li>✓ Operating temperature 0 +55°C</li> <li>✓ Max. operating range 5m</li> </ul> |
|       | ÷ .   | 300<br>400<br>500 | STANDARD | Cat. 4   | <ul> <li>✓ Max. operating range 50 m</li> <li>✓ Operating temperature-35 +60°C</li> <li>✓ IP65, IP67</li> </ul>   |

# WIRELESS CONFIGURATION (Bluetooth)

Type 4 light curtains from the EXTENDED SLIM range are TÜV, CE and UL certified according to IEC 61496-1/2, IEC 61508-1/2/3 and ISO 13849-1. Protective heights range from 170 to 1610 mm with integrated EDM\*, restart interlock and beam coding. Since EDM includes a relay monitoring function, users can also avoid the cost of wired relays. Wireless configuration is easy via the free **Bluetooth** smartphone app. No additional tool or cable is required.



\*External Device Monitoring

| ED       | 14 | SLIM | Cat. 4 | <ul> <li>✓ No blind zone</li> <li>✓ Beam coding (3 channels), EDM,<br/>start and restart interlock configurable<br/>functions</li> <li>✓ Wireless configuration through<br/>Bluetooth<sup>®</sup></li> </ul> |
|----------|----|------|--------|--|
| EXTENDED | 30 | SLIM | Cat. 4 | <ul> <li>✓ No blind zone</li> <li>✓ Beam coding (3 channels), EDM,<br/>start and restart interlock configurable<br/>functions</li> <li>✓ Wireless configuration through<br/>Bluetooth<sup>®</sup></li> </ul> |

## SAFETY SENSORS AND ACCESSORIES

### NON-CONTACT MONITORING OF DOORS MAGNETIC, RFID

MAGNETIC and RFID safety sensors are ideal for monitoring guard doors, hoods or covers. Their compact housings with standard fixing are particularly suitable for washdown applications in the food industry. RFID types are also ideal for multi-sensor applications, such as long assembly lines. Thanks to non-contact operation and coded communication, service life is very long.



|          | PRINCIPLE                | HOUSING MM   | CATEGORY     | KEY ADVANTAGES   |
|----------|--------------------------|--------------|--------------|--|
| NETIC    |                          | 36 x 26 x 13 | up to Cat. 4 | <ul> <li>✓ Magnetically coded, ISO 14119 type 4</li> <li>✓ Detection through metal plate possible</li> <li>✓ IP6K9K, Ecolab</li> </ul>                   |
| MAGNETIC |                          | 88 x 25 x 13 | up to Cat. 4 | <ul> <li>✓ Magnetically coded, ISO 14119 type 4</li> <li>✓ Detection through metal plate possible</li> <li>✓ IP6K9K, Ecolab</li> </ul>                   |
| RFID     | ₩ <sup>1010</sup><br>011 | 36 x 26 x 13 | Cat. 4       | <ul> <li>✓ RFID coded, ISO 14119 type 4</li> <li>✓ Cascadable up to 30 units</li> <li>✓ EDM and diagnostic function</li> <li>✓ IP6K9K, Ecolab</li> </ul> |

## **RELAY, MOUNTING BRACKETS**

| RELAY             | 22.5 x 99 x 114.5                              | Cat. 4      | <ul> <li>✓ Performance Level (PL) e and category<br/>4 according to EN/ISO 13849-1</li> <li>✓ Manual or automatic restart</li> <li>✓ Short response time</li> </ul>  |
|-------------------|--|-------------|--|
| MOUNTING BRACKETS | Top/bottom mor<br>Side mounti<br>Side/end mour | ng brackets | <ul> <li>Synthetic mounting brackets</li> <li>Suitable for SLIM light curtains</li> <li>Pair of brackets supplied with each light curtain</li> <li>Metal mounting brackets</li> <li>Suitable for SLIM light curtains</li> <li>Metal mounting brackets</li> <li>Suitable for SLIM light curtains</li> </ul> |

### RFID

## **BASIC AND USB SYSTEM**

BASIC transponders (tags) and read/write modules (RWMs) provide cost-effective solutions with ISO/IEC 15693-compatible HF components and a proprietary LF system. Data protection is excellent, transfer time is fast and all components use the same ContriNET protocol with RS485/USB physical layer. For hardware connection to a computer, USB RWMs provide a USB output and integral connector cable (2 m). Alternatively, a separate USB Adaptor enables a computer to communicate with up to 10 daisy-chained RWMs.



|       |                    |       | FREQUENCY            | HOUSING<br>SIZE MM                       | READ/ WRITE<br>DISTANCE MM      | KEY ADVANTAGES  |
|-------|--------------------|-------|----------------------|--|---------------------------------|---|
|       | DER                | • • • | Œ                    | Ø 20<br>Ø 30<br>Ø 50                     | 028<br>029<br>041               | ✓ HF and LF passive tags, no battery required   |
| BASIC | TRANSPONDER        | •••   | Ħ                    | Ø 9<br>Ø 16<br>Ø 20<br>Ø 30<br>Ø 50      | 014<br>031<br>025<br>045<br>050 | ✓ LF tags embeddable in metal<br>✓ Insensitive to dirt<br>✓ Temperature range -40 + 125°C<br>(-40 + 257°F)<br>✓ IP67  |
|       | RWM                |       | ( <b>F</b> )         | M18<br>M30<br>M18<br>M30                 | 036<br>041<br>042<br>060        | <ul> <li>✓ ContriNET RS485 protocol with<br/>outstanding fieldbus coverage</li> <li>✓ LF and HF RWMs can be daisy-chained<br/>on same network</li> <li>✓ Temperature range -25 + 80°C (-13<br/>+ 176°F), IP67, integral S12 connector</li> </ul>  |
| USB   | INTER-<br>FACE RWM |       | (F)<br>(F)<br>(F)(F) | M18<br>M30<br>M18<br>M30<br>67 x 66 x 28 | 036<br>041<br>042<br>060        | <ul> <li>ContriNET USB protocol for direct<br/>connection to PC (non-networkable)</li> <li>Compatible with ContriNET BASIC<br/>support tools and DEMO software;<br/>DLL for easy development of custom<br/>solutions</li> <li>Temperature range -25 +70°C (-13<br/> +158°F), IP67, integral USB A male<br/>connector</li> </ul> |

## **HIGH TEMPERATURE TAGS**

Designed for environments up to 180 or 250°C, HIGH TEMPERATURE tags offer exceptional longevity and a thermal cycling reliability of 1,000 hours (or 1,000 cycles). Tags are insensitive to dirt and provide between 128 and 2,048 Bytes of user memory. As passive devices, no battery or other power source is required. Housings are impervious (IP68 & IP69K).





 ✓ HF tag RTP-0263-020:
 -25 ... + 180°C (-13 ... + 356°F), embeddable in metal

 ✓ HF tags RTP-0502-0#2: -25 ... + 250°C (-13 ... + 482°F), 100% silicone-free

### **RFID**

## EXTREME AND WASHDOWN SYSTEM

Read/write modules (RWMs) and embeddable tags from these two ranges feature robust, full-metal, stainless-steel construction. They offer outstanding performance in metallic environments and are insensitive to dirt and metal chips. For the highest mechanical and chemical resistance, WASHDOWN components in food-grade stainless steel (V4A/AISI 316L) are fully sealed and laser welded. They function reliably when immersed in fluids such as water or oil.



|                                       |             |     |  | FREQUENCY     | HOUSING<br>SIZE MM | READ/ WRITE<br>DISTANCE MM | KEY ADVANTAGES  |
|---------------------------------------|-------------|-----|--|---------------|--------------------|----------------------------|---|
|                                       | IDER        | •   | The second secon |               | ∅ 10<br>∅ 16       | 013<br>019                 | <ul> <li>✓ LF passive tags, no battery required</li> <li>✓ All-metal, stainless-steel housings (V2A/</li> </ul>   |
|                                       | TRANSPONDER | •   |  |               | M16                | 013                        | AISI 304) resist corrosion, impact and abrasion   |
| ш                                     | RAN         |     |  |               | Ø 26               | 026                        | <ul> <li>✓ Temperature range -40 +95°C (-40<br/>+203°F)</li> <li>✓ IP68 &amp; IP69K (when embedded in metal)</li> </ul>   |
| N N N N N N N N N N N N N N N N N N N | F           |     | •  |               | M30                | 023                        |   |
| EXTREME                               | 5           | 县   |  |               | M18                | 012                        | <ul> <li>✓ ContriNET RS485 protocol with<br/>outstanding fieldbus coverage</li> <li>✓ All-metal, stainless-steel housing (V2A/<br/>Allocate)</li> </ul>                                 |
|                                       | RWM         |     | Ţ  | ( <b>LF</b> ) | M30                | 012                        | AISI 304) resists corrosion, impact and<br>abrasion<br>✓ Temperature range -25 +80°C (-13<br>+176°F), IP68 & IP69K, integral S12<br>connector   |
|                                       |             |     |  |               | ~ 10               | 0 10                       | ✓ LF passive tags, no battery required  |
|                                       | IDER        | •   |  |               | Ø 10<br>Ø 16       | 013<br>019                 | ✓ All-metal housings in food-grade<br>stainless steel (V4A/AISI 316L) resist  |
|                                       | TRANSPONDER | 9   |  |               | <u>∼</u> 10<br>M16 | 013                        | saltwater, solvents, corrosion, impacts<br>and abrasion   |
| Ş                                     | ANS         | U.  |  |               | Ø 26               | 026                        | ✓ Temperature range -40 +125°C (-40   |
| No No                                 | ТĽ          |     |  |               | M30                | 023                        | +257°F)<br>✓ IP68 & IP69K   |
| WASHDOWN                              |             |     | E  |               | M18                | 012                        | <ul> <li>✓ ContriNET RS485 protocol with<br/>outstanding fieldbus coverage</li> <li>✓ All-metal housing in food-grade stainless<br/>steel (V4A/AISI 316L) resists saltwater,</li> </ul> |
| >                                     | RWN         | RWM | T  | ( <b>LF</b> ) | M30                | 012                        | <ul> <li>solvents, corrosion, impacts and abrasion</li> <li>✓ Temperature range -40 +125°C (-40 +257°F), IP68 &amp; IP69K, integral S12 connector</li> </ul>                            |

## **IO**-Link **R/W MODULES**

Ideal for Industry 4.0 solutions, **IO**-Link read/write modules (RWMs) combine two of the key communication standards in one device: ISO 15693 at the read-write head for communication with tags and ISO 61131-9 at the S12 connector for communication with the control system. Their simplified, plug-and-play installation ensures easy, cost-effective integration.



- M18
   0...42

   M30
   0...60

   C44
   80
  - - ▲ IO-Link device: UID, Read, Write, Auto-Read and Auto-Write commands selectable from the RWM process data
    - Stand-alone SIO: Tag presence / memory data comparison / RWM Alarms
  - ✓ Temperature range -25 ... +80°C (-13 ... +176°F), IP67, integral S12 connector

## CONNECTIVITY

VIEW CONNECTIVITY DATASHEETS

www.contrinex.com/product-range/connectivity



### **INDUCTIVE & PHOTOELECTRIC CABLES**

|                  | CONNECTOR |             |                   |                 |      | CABLE CONNECTION END       |      |                |  |
|------------------|-----------|-------------|-------------------|-----------------|------|----------------------------|------|----------------|--|
| CONNECTOR        | PINS      | CONFIG.     | CABLE<br>MATERIAL | CABLE<br>LENGTH | WIRE | CABLE<br>CONNECTION<br>END | PINS | PART REFERENCE |  |
| ••• M8           | 3-pole    | straight    | PUR               | 2 m             | 3    |                            | -    | S08-3FUG-020   |  |
| ••• M8           | 3-pole    | right angle | PUR               | 2 m             | 3    | OPEN CABLE                 | -    | S08-3FUW-020   |  |
| *** M8           | 3-pole    | straight    | PVC               | 2 m             | 3    |                            | -    | S08-3FVG-020   |  |
| *** M8           | 3-pole    | right angle | PVC               | 2 m             | 3    |                            | -    | S08-3FVW-020   |  |
| (***)<br>*** M8  | 4-pole    | straight    | PUR               | 2 m             | 4    |                            | -    | S08-4FUG-020   |  |
| (* * )<br>* * M8 | 4-pole    | right angle | PUR               | 2 m             | 4    |                            | -    | S08-4FUW-020   |  |
| (* * )<br>* M8   | 4-pole    | straight    | PVC               | 2 m             | 4    |                            | -    | S08-4FVG-020   |  |
| (***)<br>*** M8  | 4-pole    | right angle | PVC               | 2 m             | 4    | OPEN CABLE                 | -    | S08-4FVW-020   |  |
| (****) M12       | 4-pole    | straight    | PUR               | 2 m             | 4    |                            | -    | S12-4FUG-020   |  |
| (****) M12       | 4-pole    | right angle | PUR               | 2 m             | 4    | OPEN CABLE                 | -    | S12-4FUW-020   |  |
| M12              | 4-pole    | straight    | PVC               | 2 m             | 4    |                            | -    | S12-4FVG-020   |  |
| (****) M12       | 4-pole    | right angle | PVC               | 2 m             | 4    |                            | -    | S12-4FVW-020   |  |

## ACCESSORIES

#### VIEW ACCESSORIES DATASHEETS

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