

CONTRINEX

SENSORS SAFETY RFID

TOP PERFORMERS

INDUCTIVE AND PHOTOELECTRIC MINIATURE

- ✓ World's smallest

INDUCTIVE CHIP-IMMUNE

- ✓ Reliable switching despite metal chips

INDUCTIVE WASHDOWN

- ✓ Pressure washable and rust-proof

PHOTOELECTRIC C23 AND M18P

- ✓ World-leading background suppression

PHOTOELECTRIC TRANSPARENT UV

- ✓ Most reliable transparent object detection

RFID READ-WRITE MODULES WITH IO-LINK

- ✓ Live data for IOT from your RFID system

HIGH-TEMPERATURE SENSORS AND TAGS

- ✓ Great in heat

INDUCTIVE ANALOG AND PHOTOELECTRIC DISTANCE

- ✓ See it coming

PROGRAM OVERVIEW

LIVE SENSOR DATA FOR IOT  IO-Link

A
Swiss
Company

CONTRINEX - A WORLD OF SENSORS

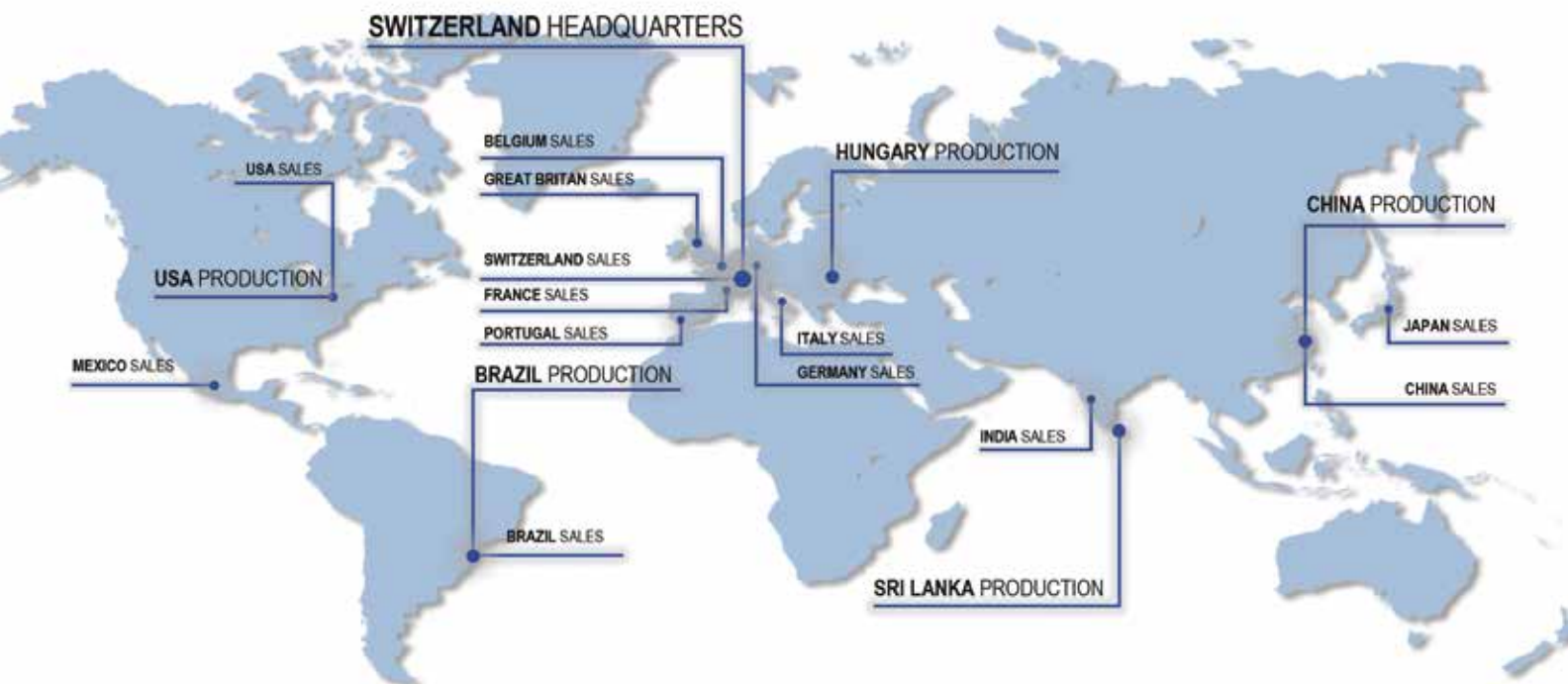
AT A GLANCE

- ✓ 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



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



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 wire break, under-voltage, LC oscillator break 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 IO-Link message.

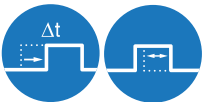
✓ ✓



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:

3 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.

✓

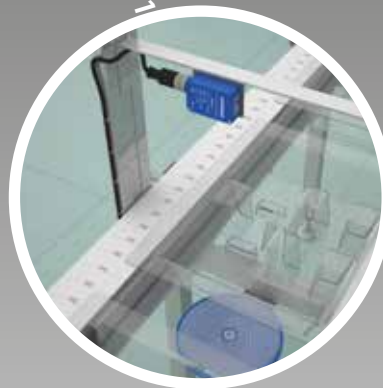
* Functionalities may vary depending on series and sensor type

LIVE SENSOR DATA FOR IOT

CLOUD ANALYTICS



IO-Link SENSORS



RFID



PHOTOELECTRIC SENSORS

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)

INDUCTIVE SENSORS

EXCELLENCE IN NORMAL ENVIRONMENTS

BASIC

KEY ADVANTAGES

- ✓ Exceptional price/performance ratio
- ✓ Excellent accuracy
- ✓ Outstanding switching-point stability due to digital temperature compensation
- ✓ Vibration and shock resistant

INDUSTRIES

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

HIGHLIGHTS

C44 SERIES

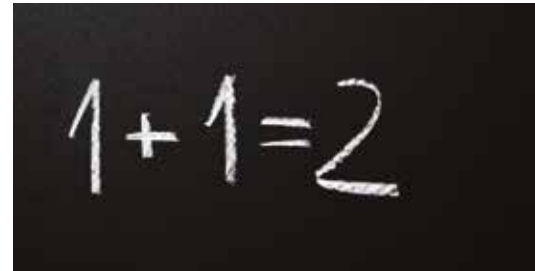
- ✓ Highly flexible sensor solution
- ✓ Suitable for rough environments, IP 68/IP 69K impervious
- ✓ Active face mountable in 5 directions
- ✓ Long operating distances
- ✓ Easy click-and-lock mounting

FULL INOX BASIC

- ✓ One-piece stainless steel housing (sensing face included)
- ✓ Factor 1 on steel and aluminum
- ✓ Outstanding lifetime and robustness due to Condet® technology and Contrinex ASIC
- ✓ Practically indestructible sensor

EXTRA DISTANCE

- ✓ Up to 4-times standard operating distance, proven for more than 20 years across the world's largest installed base
- ✓ Outstanding lifetime and electromagnetic compatibility due to Condist® technology and Contrinex ASIC
- ✓ Special material detection (e.g. carbon fiber)



Textile spinning machine automation



C44 SERIES



Position detection on crane



FULL INOX BASIC



Wind turbine speed monitoring



EXTRA DISTANCE



Presence sensing in automotive factory



IO-Link

IO-Link available from Q2/19

Housing size mm	Ø 6.5	M8	C8	M12	M18	M30	C44
Classics	1.5 ... 2	1.5 ... 4	1.5 ... 2	2 ... 8	5 ... 12	10 ... 25	15 ... 40
Extra Distance	3	3 ... 6	3	6 ... 10	12 ... 20	22 ... 40	-
Full Inox	-	2	-	3	5	10	-


INDUCTIVE SENSORS

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
- ✓ Light weight of the sensor
- ✓ Electronics vacuum potted for optimum long-term reliability under high stress

INDUSTRIES

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

HIGHLIGHTS

MINIMINI

- ✓ Embeddable ultraminiature device
- ✓ Housing length 12 mm, 3 mm diameter, stainless steel V2A
- ✓ Increased operating distance: 1 mm
- ✓ High switching frequency up to 8000 Hz

FULL INOX MINIATURE

- ✓ Outstanding lifetime and robustness due to Condet® 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® technology and Contrinex ASIC



Robotics for pick-and-place



Linear drive technology



Machine tool position control



Textile spinning machine automation



 IO-Link

 IO-Link available from Q2/19

Housing size mm		∅ 3	M4	∅ 4	M5	C5
s _n mm	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	-

INDUCTIVE SENSORS

EXTREME DURABILITY IN HARSH ENVIRONMENTS

EXTREME

KEY ADVANTAGES

- ✓ One-piece stainless-steel housing
- ✓ Mechanically and chemically extremely robust
- ✓ Corrosion resistant
- ✓ IP 68 and IP 69K, water resistant
- ✓ Pressure resistant up to 100 bar (1451 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 _n mm)	3 ... 6	2 ... 15	5 ... 20	10 ... 40	7

ANALOG OUTPUT FOR DISTANCE CONTROL

ANALOG OUTPUT

KEY ADVANTAGES

- ✓ Longest sensing ranges
- ✓ Best temperature stability
- ✓ Excellent repeat accuracy
- ✓ Resolution in μm range
- ✓ Current or voltage output



SEE IT COMING

LIVE SENSOR DATA FOR IOT

Distance monitoring for position control



Drive-belt tension monitoring

INDUSTRIES

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

IO-Link available from Q3/19

Housing size mm	C8	M8	M12	M18	M30
Extra Distance (s _n mm)	0 ... 4	0 ... 4	0 ... 6	0 ... 20	0 ... 40
Smart Sensor	0 ... 4	0 ... 4	0 ... 6	0 ... 20	0 ... 40



INDUCTIVE SENSORS

EASY INSTALLATION AND HIGH SWITCHING FREQUENCY 2-WIRE

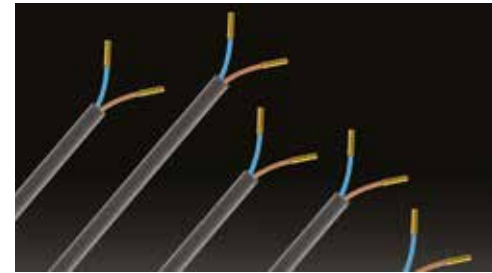
KEY ADVANTAGES

- ✓ 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

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 _n mm)	0.6	0.6	0.8	0.8	0.8	1.5	1.5 / 2.5	2 / 4	5 / 8	10 / 15



Automotive part sensing



Spindle-cutting machine tool



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

KEY ADVANTAGES

- ✓ Pressure resistant up to 200 bar (2901 psi)
- ✓ Mechanically and chemically rugged
- ✓ Impervious: IP 68
- ✓ Gas-tight sensing face
- ✓ Miniature devices

INDUSTRIES

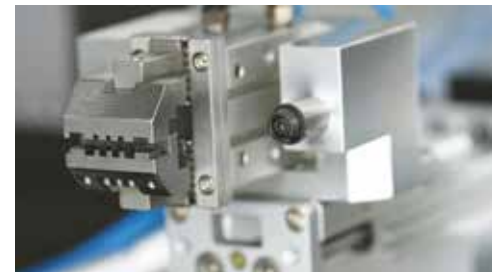
Automotive production and supply, machine tool, energy, pneumatics, lubrication systems, pumps, valves

IO-Link IO-Link available from Q2/19

Housing size mm	Ø 3	Ø 4	M5	Ø 6.5
Classics	0.8	0.6	0.6	-
Extra Distance	-	-	-	2.5



Micromechanical grippers



Pump and valve control



INDUCTIVE SENSORS

**PRESSURE RESISTANT UP TO 500 BAR
(7255 PSI)**

HIGH PRESSURE

KEY ADVANTAGES

- ✓ Highest operating (500 bar / 7255 psi) and peak pressure (1000 bar / 14510 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  IO-Link available from Q2/19

Housing size mm		M5 / P5	M8 / P8	M12 / P12	M14 / P20
s _n mm	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

INDUSTRIES

Automotive production and supply, machine tool, energy, aerospace

 IO-Link

Housing size mm	M5	M8	M12	M18
Classics (s _n mm)	0.8	4	2 ... 4	5



Aircraft door monitoring



Automotive part sensing



INDUCTIVE SENSORS

GREAT IN HEAT

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 _n mm)	2	3 / 4	5	10 / 15	25



Automated bakery equipment



Paintshop in automotive industry



DURABLE AND RELIABLE IN WELDING CELLS WELD-IMMUNE

KEY ADVANTAGES

- ✓ Resistant to electromagnetic fields of up to 40 millitesla
- ✓ Extremely robust
- ✓ Easy to clean – even using harsh methods
- ✓ No false switching caused by metal dust or chips
- ✓ Factor 1 on steel and aluminum
- ✓ No extra protection needed
- ✓ Long operating distances

INDUSTRIES

Automotive production and supply, welding equipment

Housing size mm	M8	M12	M18
Full Inox (s _n mm)	3	6	10



Welding cell in automotive factory



OEM welding equipment



INDUCTIVE SENSORS

RELIABLE SWITCHING DESPITE METAL CHIPS

LIVE SENSOR DATA FOR IOT

FOR THE HARSHTEST 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 IP 68 and IP 69K
- ✓ Temperature range -25 to +85°C (-13 to +185°F)
- ✓ Size M12, M18 and M30
- ✓ Operating distances up to 12 mm

INDUSTRIES

Automotive production and supply, machine tool

IO-Link

Housing size mm	M12	M18	M30
Full Inox (s _n mm)	3	5	12



Tools for machining metal parts



Metal recycling equipment



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
- ✓ IP 68 and IP 69K
- ✓ 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 _n mm)	3 ... 5



Robot handling of sheet metal



Double-feed prevention for formed parts



INDUCTIVE SENSORS

FOR SHIPS, PORTS AND OFFSHORE

MARITIME



Wear monitoring, propeller shaft



Machinery spaces in ships



KEY ADVANTAGES

- ✓ GL approved, class DNV-GL-CG-0339
- ✓ Special EMC protection
- ✓ Resistant to corrosion and salt water
- ✓ Impervious, enclosure rating IP 68 or IP 69K
- ✓ 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

IO-Link

Housing size mm	M12	M18	M30	P12G	C23
Full Inox (s _n mm)	6	10	20	1.5	7

ECOLAB APPROVED FOR HARSHTEST CLEANING PROCESSES

WASHDOWN

KEY ADVANTAGES

- ✓ Corrosion resistant
- ✓ Food safe
- ✓ IP 68 / IP 69K protection
- ✓ Extremely rugged Full Inox types: one-piece stainless-steel housing, factor 1 on steel and aluminum, Ecolab approved



PRESSURE WASHABLE & RUST-PROOF

LIVE SENSOR DATA FOR IOT



Sorting conveyor for egg packaging



Brewery production equipment



INDUSTRIES

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

IO-Link

Housing size mm	M12	M18	M30
Full Inox	6 ... 10	10 ... 20	20 ... 40
Classics	2	-	-

PHOTOELECTRIC SENSORS

WORLD-LEADING
BACKGROUND
SUPPRESSION

LIVE SENSOR
DATA FOR IOT

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 mm x 30 mm x 10 mm
- ✓ Excellent background suppression characteristics with pinpoint LED
- ✓  IO-Link interface available on PNP types
- ✓ Mutual interference immunity
- ✓ Versions available with stability alarm as second output
- ✓ Enclosure rating IP 67, Ecolab approved




Textile spinning machine automation



Beverage filling machines



M18P SERIES

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



Conveyor systems



 IO-Link

SERIES	1120	M18P	1180	C23	3030	4050	C55
Housing size mm	M12	M18	M18	□ 20x30x10	□ 30x30x15	□ 40x50x15	□ 50x50x23
							
s_n mm							
Diffuse	300	1200	250 / 600	1500	600 / 1200	1200	-
Reflex	1500	7000	2000	8000	2000 / 4000	4000	-
Through-beam	10,000 / 50,000	30,000	20,000 / 50,000	30,000	6000 / 12,000	50,000	-
Background suppression	-	250	120	300	200	500	5000

SMALLEST ON THE MARKET

MINIATURE

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

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
- ✓ Calibrated sensing ranges
- ✓ Teach available with extended type
- ✓ High switching frequency
- ✓ Connection by cable or M8 pigtail
- ✓ Enclosure rating IP 67



M05 SERIES

- ✓ Embeddable housing in stainless steel V2A, threaded M5
- ✓ Calibrated sensing ranges
- ✓ Teach available with extended type
- ✓ High switching frequency
- ✓ Connection by cable or M8 pigtail
- ✓ Enclosure rating IP 67



Micromechanical grippers



PCB component presence check



Detection of small parts



IO-Link available from 2019

SERIES	D04	M05	0507	C12
Housing size mm	Ø4	M5	□ 5x7x40	□ 13x21/27x7
s_r mm				
Diffuse	12 / 24 / 60 / 120	12 / 24 / 60 / 120	20 / 50 / 90	
Background suppression	-	-	-	15 / 30 / 120
Reflex	-	-	-	3000
Through-beam	500	500	-	2000

PHOTOELECTRIC SENSORS

RELIABLE SHORT AND LONG-RANGE SENSING FIBER-OPTIC

KEY ADVANTAGES

Fiber-optic sensors

- ✓ Robust 3030 and 4040 series (30 mm x 30 mm x 15 mm and 40 mm x 40 mm x 19 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

Fibers

- ✓ Large selection of types, including cylindrical light beam, multi-beam, liquid level monitoring and low & high temperature
- ✓ Diffuse or through-beam sensing, axial or radial
- ✓ Synthetic fibers with bending radii from 2 mm, suitable for cutting on-site



Printed circuit board production



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	3030	3060	4040
Housing size mm	□ 30x30x15	□ 30x60x10	□ 40x40x19
Fiber-optic amplifier (s _n 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 IP 67 / IP 69K

C55 distance measuring sensors

- ✓ Distance measurement up to 5000 mm
- ✓ Housing 50 mm x 50 mm x 23 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP 67 / IP 69K, Ecolab approved



INDUSTRIES

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

IO-Link

SERIES	C23	C55
Housing size mm	□ 20x34x12	□ 50x50x23
s _n mm	80 / 100 / 200	-
	-	5000

SEE IT COMING

LIVE SENSOR
DATA FOR IOT



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 IP 67, 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 1200 mm



Detection of clear plastic bottles




Pharmaceutical vial processing



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 5000 mm
- ✓ Sensitivity adjustment via teach button,  IO-Link or potentiometer



Detection of glass sheet on conveyor



 IO-Link

SERIES	C23 UV Light	C23 Red Light
Housing size mm	□ 20x30x10	□ 20x30x10
Reflex (s _n mm)	1200	5000

PHOTOELECTRIC SENSORS

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



IO-Link

SERIES

Housing size mm

4050 Color

□ 40x50x15

4050 Contrast

□ 40x50x15

Diffuse (s_n mm)

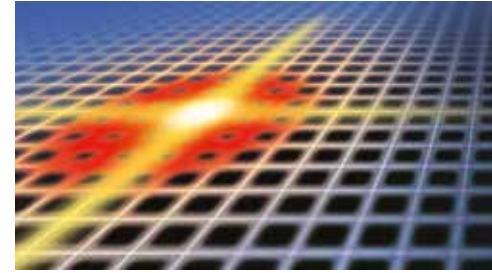
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12

PHOTOELECTRIC SENSORS

FAST DETECTION, COUNTING AND MEASUREMENT

LIGHT GRIDS



Counting of small objects

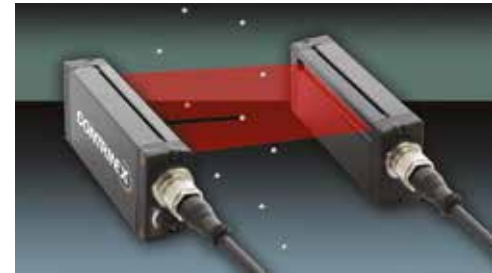
KEY ADVANTAGES

Detection grids:

- ✓ Fast response time 0.8 ms ... 4.8 ms
- ✓ Ideal for detection and counting of even the smallest objects
- ✓ Resolution: 0.9 mm, 2 mm, 4 mm, 8 mm or 25 mm
- ✓ Detection height: up to 2010 mm

Measurement grids:

- ✓ Ideal for position and dimension control
- ✓ Center beam spacing: 5 mm or 12 mm
- ✓ Analog output 0-10 V or 4-20 mA
- ✓ Measurement height: up to 1418 mm



Carton measurement and sorting

INDUSTRIES

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

SERIES		DGI	MGI
Housing size mm		□ 40x20.5xH	□ 40x20.5xH
s _n mm	Detection grids	8000	
	Measurement grids		4000



ULTRASONIC SENSORS

IDEAL FOR LIQUID OR GRANULAR TARGETS

KEY ADVANTAGES

- ✓ Precise control of position, distance, height and level
- ✓ Sensing ranges up to 6000 mm
- ✓ Diffuse and reflex types
- ✓ Robust housings in food-grade stainless steel or plastic, IP 67
- ✓ M18 in standard or short housing
- ✓ M30 in standard housing or with large front
- ✓ Various output types



Level monitoring in plastic production

INDUSTRIES

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



Liquid level sensing in food industry

* Metal or plastic housing ** Plastic housing

Housing size mm		M18 short housing*	M18 standard housing*	M30 standard housing*	M30 large front**
s _n mm	Diffuse	300 / 1200	900 / 2000	2500 / 3500	6000
	Reflex	300 / 1200	900 / 2000	-	-



SAFETY LIGHT CURTAINS

EXCELLENT PRICE/PERFORMANCE RATIO

BASIC

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 1827 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
BASIC		14	STANDARD	Cat. 4	<ul style="list-style-type: none"> ✓ Max. operating range 3.5 m ✓ Operating temperature -35 ... +60°C ✓ IP 65, IP 67
		30	STANDARD	Cat. 4	<ul style="list-style-type: none"> ✓ Max. operating range 12 m ✓ Operating temperature -35 ... +60°C ✓ IP 65, IP 67
			STANDARD	Cat. 2	<ul style="list-style-type: none"> ✓ Max. operating range 12 m ✓ Operating temperature 0 ... +50°C ✓ IP 65, IP 67
			SLIM	Cat. 2	<ul style="list-style-type: none"> ✓ No blind zone ✓ Flexible mounting and connection ✓ Operating temperature 0 ... +55°C
		300 400 500	STANDARD	Cat. 4	<ul style="list-style-type: none"> ✓ Max. operating range 50 m ✓ Operating temperature -35 ... +60°C ✓ IP 65, IP 67

WIRELESS CONFIGURATION (BLUETOOTH)

EXTENDED

Optimized for Industry 4.0, the EXTENDED range of light curtains includes EDM*-type communication with the control system to provide extended functionality and greater ease of use. EDM also allows users to avoid costly relays, reducing installation and wiring costs. Wireless configuration is easy via the free **Bluetooth**® smartphone app. No additional tool or cable is required.



Bluetooth® available from Q2/19

* External Device Monitoring

EXTENDED		14	SLIM	Cat. 4	<ul style="list-style-type: none"> ✓ No blind zone ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions ✓ Wireless configuration through Bluetooth®
		30	SLIM	Cat. 4	<ul style="list-style-type: none"> ✓ No blind zone ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions ✓ Wireless configuration through Bluetooth®

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
MAGNETIC			36 x 26 x 13	up to Cat. 4	<ul style="list-style-type: none"> ✓ Magnetically coded, ISO 14119 type 4 ✓ Detection through metal plate possible ✓ IP 6K9K, Ecolab
			88 x 25 x 13	up to Cat. 4	<ul style="list-style-type: none"> ✓ Magnetically coded, ISO 14119 type 4 ✓ Detection through metal plate possible ✓ IP 6K9K, Ecolab
RFID			36 x 26 x 13	Cat. 4	<ul style="list-style-type: none"> ✓ RFID coded, ISO 14119 type 4 ✓ Cascadable up to 30 units ✓ EDM and diagnostic function ✓ IP6K9K, Ecolab

RELAY, MOUNTING BRACKETS

RELAY			22.5 x 99 x 114.5	Cat. 4	<ul style="list-style-type: none"> ✓ Performance Level (PL) e and category 4 according to EN/ISO 13849-1 ✓ Manual or automatic restart ✓ Short response time
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MOUNTING BRACKETS			Top/bottom mounting brackets	<ul style="list-style-type: none"> ✓ Synthetic mounting brackets ✓ Suitable for SLIM light curtains ✓ Pair of brackets supplied with each light curtain
			Side mounting brackets	<ul style="list-style-type: none"> ✓ Metal mounting brackets ✓ Suitable for SLIM light curtains
			Side/end mounting brackets	<ul style="list-style-type: none"> ✓ Metal mounting brackets ✓ Suitable for SLIM light curtains

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).



		FREQUENCY	HOUSING SIZE MM	READ/ WRITE DISTANCE MM	KEY ADVANTAGES
BASIC	TRANSPONDER	LF	∅ 20	0 ... 28	<ul style="list-style-type: none"> ✓ HF and LF passive tags, no battery required ✓ LF tags embeddable in metal ✓ Insensitive to dirt ✓ Temperature range -40 ... +125°C (-40 ... +257°F) ✓ IP 67
			∅ 30	0 ... 29	
			∅ 50	0 ... 41	
		HF	∅ 9	0 ... 14	
			∅ 16	0 ... 31	
			∅ 20	0 ... 25	
	RWM	LF	M18	0 ... 36	
			M30	0 ... 41	
		HF	M18	0 ... 42	
			M30	0 ... 60	

USB	RWM	LF	M18	0 ... 36	<ul style="list-style-type: none"> ✓ ContriNET USB protocol for direct connection to PC (non-networkable) ✓ Compatible with ContriNET BASIC support tools and DEMO software; DLL for easy development of custom solutions ✓ Temperature range -25 ... +70°C (-13 ... +158°F), IP 67, integral USB A male connector
		LF	M30	0 ... 41	
		HF	M18	0 ... 42	
	HF	M30	0 ... 60		
	INTER-FACE	LF HF	67 x 66 x 28		

HIGH TEMPERATURE TAGS

Designed for environments up to 180 or 250°C, HIGH TEMPERATURE tags offer exceptional longevity and a thermal cycling reliability of 1000 hours (or 1000 cycles). Tags are insensitive to dirt and provide between 128 and 2048 Bytes of user memory. As passive devices, no battery or other power source is required. Housings are impervious (IP 68 & IP 69K).



HIGH TEMP.	TRANSPONDER	LF	∅ 26	0 ... 26	<ul style="list-style-type: none"> ✓ LF tag RTL-0262-003: -40 ... +180°C (-40 ... +356°F), embeddable in metal, laser-welded stainless steel (V4A / AISI 316L), food safe, corrosion-proof, resistant to solvents ✓ 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
		HF	∅ 26	0 ... 31	
			∅ 50	0 ... 50 / 44 / 42	

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 SIZE MM	READ/ WRITE DISTANCE MM	KEY ADVANTAGES
EXTREME	TRANSPONDER	LF	∅ 10	0 ... 13	<ul style="list-style-type: none"> ✓ LF passive tags, no battery required ✓ All-metal, stainless-steel housings (V2A/AISI 304) resist corrosion, impact and abrasion ✓ Temperature range -40 ... +95°C (-40 ... +203°F) ✓ IP 68 & IP 69K (when embedded in metal)
			∅ 16	0 ... 19	
	M16		0 ... 13		
	∅ 26		0 ... 26		
	M30		0 ... 23		
	RWM	LF	M18	0 ... 12	<ul style="list-style-type: none"> ✓ ContriNET RS485 protocol with outstanding fieldbus coverage ✓ All-metal, stainless-steel housing (V2A/AISI 304) resists corrosion, impact and abrasion ✓ Temperature range -25 ... +80°C (-13 ... +176°F), IP68 & IP69K, integral S12 connector
			M30	0 ... 12	

WASHDOWN	TRANSPONDER	LF	∅ 10	0 ... 13	<ul style="list-style-type: none"> ✓ LF passive tags, no battery required ✓ All-metal housings in food-grade stainless steel (V4A/AISI 316L) resist saltwater, solvents, corrosion, impacts and abrasion ✓ Temperature range -40 ... +125°C (-40 ... +257°F) ✓ IP 68 & IP 69K
			∅ 16	0 ... 19	
	M16		0 ... 13		
	∅ 26		0 ... 26		
	M30		0 ... 23		
	RWM	LF	M18	0 ... 12	<ul style="list-style-type: none"> ✓ ContriNET RS485 protocol with outstanding fieldbus coverage ✓ All-metal housing in food-grade stainless steel (V4A/AISI 316L) resists saltwater, solvents, corrosion, impacts and abrasion ✓ Temperature range -40 ... +125°C (-40 ... +257°F), IP 68 & IP 69K, integral S12 connector
			M30	0 ... 12	

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.



IO-LINK	RWM		HF	M18	0 ... 12	<ul style="list-style-type: none"> ✓ IO-Link protocol V1.1 with 2 operating modes: <ul style="list-style-type: none"> - IO-Link device: Scan UID, Scan user data, Scan read/write command - Stand-alone SIO: Tag presence / Data block comparison ✓ RWM reconfigurable via a master tag ✓ Temperature range -25 ... +80°C (-13 ... +176°F), IP 67, integral S12 connector
				M30	0 ... 12	



WHY CHOOSE US

- ✓ Leader for sensors and systems in the most challenging operating conditions
- ✓ Most reliable sensors on the market with best temperature compensation
- ✓ Large installed base, proven worldwide since 1972
- ✓ Impeccable Swiss quality, certified to international standards
- ✓ Wide IO-Link portfolio with over 3000 products available – ready for Industry 4.0

CUSTOMER FOCUS

- ✓ Global Contrinex sales network
- ✓ International customer services
- ✓ Solution-oriented application support
- ✓ 5 production sites for worldwide availability
- ✓ 3 logistics hubs for fast delivery

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