

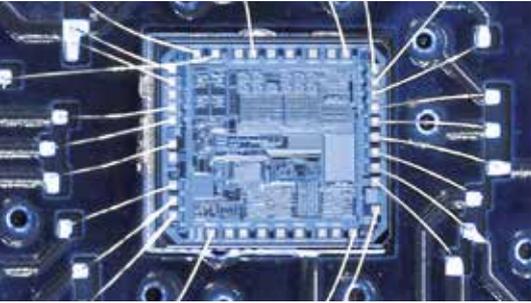
# Program Overview

**CONTRINEX**  
SENSORS SAFETY RFID



A  
Swiss  
Company

# CONTRINEX - A WORLD OF SENSORS



**OWN ASICS**  
**TECHNOLOGY LEADER**  
**SOLUTION PARTNER**

## 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
- ✓ 14 own subsidiaries in all major markets
- ✓ More than 500 employees worldwide
- ✓ 8000 products



*Contrinex Headquarters, Switzerland*

## GLOBAL EXPERIENCE, LOCAL SUPPORT

### Production

Contrinex manufactures its own sensors, safety and RFID systems in 4 production locations: Switzerland (since 1972), Hungary (since 1995), China (since 2003) and Brazil (since 2009).



*Contrinex Hungary - new factory inaugurated in 2013*

# CONTENTS

## SENSORS **INDUCTIVE**

BASIC	4
MINIATURE from 3 x 12 mm	4
EXTREME the world's toughest	5
EXTRA PRESSURE 100 bar	5
HIGH PRESSURE 1000 bar	6
EXTRA TEMPERATURE 120°C	6
HIGH TEMPERATURE 230°C	7
WASHDOWN Ecolab approved	7
ANALOG OUTPUT	8
WELD-IMMUNE	8

## **PHOTOELECTRIC**

CYLINDRICAL SUBMINIATURE	9
CYLINDRICAL MINIATURE	9
CYLINDRICAL SMALL	10
CUBIC SUBMINIATURE	10
CUBIC MINIATURE	11
CUBIC SMALL	11
CUBIC COMPACT	12
FIBER-OPTIC AMPLIFIERS, FIBERS	12

## **ULTRASONIC**

MINIATURE	13
SMALL	13
COMPACT	13

## **CAPACITIVE**

BASIC	13
HIGH PERFORMANCE	13

## SAFETY **LIGHT CURTAINS**

FINGER PROTECTION	14
HAND PROTECTION	14

## **ACCESS CONTROL BARRIERS**

ACCESS CONTROL	14
----------------	----

## RFID **LOW FREQUENCY**

(125 kHz technology)

SYNTHETIC components	15
ALL-METAL components	15
INTERFACES for industrial fieldbuses	15

## **HIGH FREQUENCY**

(13.56 MHz technology)

STANDARD components	15
TAGS EMBEDDABLE IN METAL	15
TAGS FOR HIGH TEMPERATURE 250°C	15
R/W MODULES WITH USB	15
INTERFACES for industrial fieldbuses	15

For special products see Contrinex catalog, downloadable from our website: [www.contrinex.com](http://www.contrinex.com)



# SENSORS

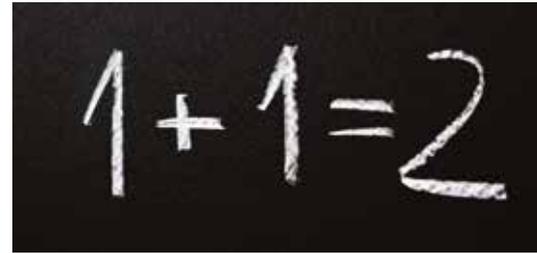
## INDUCTIVE

### EXCELLENCE IN NORMAL ENVIRONMENTS

## BASIC

#### KEY ADVANTAGES

- ✓ Exceptional price/performance ratio
- ✓ Excellent accuracy
- ✓ Outstanding temperature compensation
- ✓ Vibration and shock resistant
- ✓ Long operating distances



Textiles



Green energy



#### INDUSTRIES

Textiles, green energy, machine tools, automotive manufacturing, logistics, packaging machines

Housing size (s <sub>n</sub> mm)	∅ 6.5 mm	M8	C8	M12	M18	M30	C40	C44
Classics	1.5 ... 2	1.5 ... 4	1.5 ... 2	2 ... 8	5 ... 8	10 ... 15	15 ... 40	15 ... 40
Extra Distance	3	3 ... 6	3	6 ... 10	12 ... 20	22 ... 40	-	-

## INDUCTIVE

### FULL FUNCTIONALITY, SMALLEST SIZE

## MINIATURE

#### KEY ADVANTAGES

- ✓ Smallest self-contained inductive sensors on the market
- ✓ Miniature sensors are ideal for mounting where space is limited
- ✓ Outstanding temperature stability from -25°C (-13°F) to +70°C (+158°F)
- ✓ High switching frequency up to 5000 Hz
- ✓ Light weight of the sensor
- ✓ Electronics vacuum potted for optimum long-term reliability under high stress



Robotics



Linear drive technology



#### INDUSTRIES

Micromechanics, robotics, machine tools, automation equipment, special purpose machines

Housing size (s <sub>n</sub> mm)	∅ 3 mm	M4	∅ 4 mm	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	-

## INDUCTIVE

### EXTREME DURABILITY IN HARSH ENVIRONMENTS

# EXTREME

#### KEY ADVANTAGES

- ✓ Mechanically and chemically extremely robust
- ✓ Corrosion resistant
- ✓ IP 68 and IP 69K, sea-water resistant
- ✓ Pressure resistant up to 80 bar (1160 psi)
- ✓ Factor 1 on steel and aluminum



Machine tools



Mobile equipment



#### INDUSTRIES

Automotive manufacturing, mobile equipment, packaging, machine tools

Housing size (s <sub>n</sub> mm)	M8	M12	M18	M30
Full Inox	3 ... 6	2 ... 15	5 ... 20	20... 40

## INDUCTIVE

### PRESSURE RESISTANT UP TO 100 BAR (1451 PSI)

# EXTRA PRESSURE

#### KEY ADVANTAGES

- ✓ Pressure resistant up to 100 bar (1451 psi)
- ✓ Mechanically and chemically rugged
- ✓ Impervious: IP 68
- ✓ Gas-tight sensing face
- ✓ Miniature devices



Micromechanics



Pump and valve control



#### INDUSTRIES

Pneumatics, lubrication systems, pumps, valves

Housing size (s <sub>n</sub> mm)	∅ 3 mm	M5	∅ 6.5 mm
Classics	0.8	0.6	-
Extra Distance	-	-	2.5

# SENSORS

## INDUCTIVE

**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)



*Hydraulic cylinders with sensors*



*Concrete pumps*



### INDUSTRIES

Hydraulic and fluid power, concrete pumps, injection molding machines

Housing size (s <sub>n</sub> mm)	M5 / P5	M8 / P8	M12 / P12	M14 / P20
Extra Distance	1	1.5	1.5 ... 2.5	3
Full Inox	-	-	1.5	-

## INDUCTIVE

**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



*Aerospace*



*Automotive manufacturing industry*



### INDUSTRIES

Machine tools, green industry, aerospace, automotive manufacturing

Housing size (s <sub>n</sub> mm)	M5	M8	M12	M18
Classics	0.8	4	2 ... 4	5

## INDUCTIVE

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

### KEY ADVANTAGES

- ✓ Models with external electronics for temperatures of up to +230°C (+446°F)
- ✓ Models with integrated electronics for temperatures of up to +180°C (+356°F)
- ✓ Excellent long term reliability



### INDUSTRIES

Paintshops, surface treatment, bakery equipment

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



Bakery equipment



Paintshop in automotive industry



## INDUCTIVE

# ECOLAB APPROVED FOR HARSHTEST CLEANING PROCESSES

# WASHDOWN

### KEY ADVANTAGES

- ✓ Corrosion resistant
- ✓ Food safe
- ✓ Mechanically and chemically rugged
- ✓ Full Inox housing
- ✓ IP 68 / IP 69K protection
- ✓ One-piece full-metal housing
- ✓ Waterproof sensor, sea-water resistant



### INDUSTRIES

Food and beverage, pharmaceutical industry, offshore and marine applications, industrial cleaning systems

Housing size (s <sub>n</sub> mm)	M12	M18	M30
Full Inox	6	10	20



Food processing



Marine applications



# SENSORS

## INDUCTIVE

### ANALOG OUTPUT FOR DISTANCE CONTROL

## ANALOG OUTPUT

#### KEY ADVANTAGES

- ✓ Longest sensing ranges
- ✓ Best temperature stability
- ✓ Excellent repeat accuracy
- ✓ Resolution in  $\mu\text{m}$  range



Position control



Machine tools



#### INDUSTRIES

Machine tools, printing

Housing size ( $s_n$ mm)	C8	M8	M12	M18	M30
Extra Distance	0 ... 4	0 ... 4	0 ... 6	0 ... 20	0 ... 40

## INDUCTIVE

### 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
- ✓ No extra protection needed
- ✓ Long operating distances



Automotive manufacturing industry



Welding equipment



#### INDUSTRIES

Automotive manufacturing, welding equipment

Housing size ( $s_n$ mm)	M12	M18
Full Inox	6	10

## PHOTOELECTRIC

### THE SMALLEST ON THE MARKET

# CYLINDRICAL SUBMINIATURE

#### KEY ADVANTAGES

- ✓ Ø 4 and M5 housings for target detection in limited spaces
- ✓ Rugged metal housing
- ✓ Accurate target detection due to cylindrical light beam
- ✓ Rugged sapphire glass or glass sensing face, scratch and chemically resistant
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ High system reserves (excess gain)



#### INDUSTRIES

Precision engineering, semiconductors, electronics, vending machines

Housing size (s <sub>n</sub> mm)	Ø 4 mm	M5
Diffuse	10 ... 50	10 ... 50
Through-beam	-	250



*Precision processes*



*Electronics*



## PHOTOELECTRIC

### M12 STANDARD SIZE FOR MULTIPLE USES

# CYLINDRICAL MINIATURE

#### KEY ADVANTAGES

- ✓ M12 miniature sensor series
- ✓ Rugged metal housing
- ✓ Accurate and speed independent target detection; response time 0.5 msec (laser: 0.1 msec)
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ High system reserves (excess gain)
- ✓ Easy adjustment (due to visible red light)
- ✓ Laser sensor (protection class 2)



#### INDUSTRIES

Automotive manufacturing, machine tools, logistics, textiles, green energy, packaging, filling machines

Housing size (s <sub>n</sub> mm)	M12	M12 Laser
Diffuse	300	-
Reflex	1500	-
Through-beam	10,000	50,000



*Packaging*



*Textiles*



# SENSORS

## PHOTOELECTRIC

### M18 STANDARD SIZE, INCLUDING 90° SENSING CYLINDRICAL SMALL

#### KEY ADVANTAGES

- ✓ Small sensor M18
- ✓ Models for lateral sensing
- ✓ Rugged metal housing
- ✓ Accurate and speed-independent target detection
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ High system reserves (excess gain)
- ✓ Easy adjustment (due to visible red light)
- ✓ Laser sensor (protection class 2)



#### INDUSTRIES

Automotive manufacturing, machine tools, logistics, textiles, green energy, packaging, filling machines, aerospace

Housing size (s <sub>n</sub> mm)	M18	M18W (90°)	M18 Laser
Diffuse	40 ... 600	40 ... 600	40 ... 250 / 60 ... 600
Reflex	2000	2000	-
Through-beam	20,000	20,000	50,000
Background suppression	10 ... 120	10 ... 120	-



Textiles



Filling machines



## PHOTOELECTRIC

### 5 X 7 MM STEEL HOUSING AND NARROW FOCUS CUBIC SUBMINIATURE

#### KEY ADVANTAGES

- ✓ Cubic  $\square$  5 x 7 x 40 mm sensors
- ✓ Rugged metal housing
- ✓ Accurate target detection due to cylindrical light beam
- ✓ Rugged sapphire-glass sensing face, scratch and chemically resistant
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ High system reserves (excess gain)



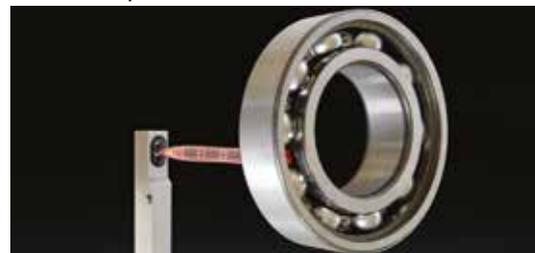
#### INDUSTRIES

Precision engineering, semiconductors, electronics, vending machines

Housing size (s <sub>n</sub> mm)	$\square$ 5 x 7 x 40 mm
Diffuse	20 / 50 / 90



Precision processes



Vending machines



## PHOTOELECTRIC

# POWERFUL SENSORS IN 30 X 30 MM HOUSING CUBIC MINIATURE

### KEY ADVANTAGES

- ✓ Complete miniature sensor series  $\square$  30 x 30 x 15 mm in rugged Crastin® housings
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ Diffuse sensors with precise background suppression
- ✓ Polarizing filter (reflex sensors)
- ✓ Changeover outputs
- ✓ Analog outputs



### INDUSTRIES

Packaging, logistics, filling machines

Housing size (s <sub>n</sub> mm)	$\square$ 30 x 30 x 15 mm
Diffuse	600 / 1200
Reflex	2000 / 4000
Through-beam	6000 / 12,000
Background suppression	15 ... 200
Analog output	10 ... 100



Conveyor solutions



Logistics



## PHOTOELECTRIC

# EXCELLENT VALUE FOR DEMANDING APPLICATIONS CUBIC SMALL

### KEY ADVANTAGES

- ✓ Small sensor series for peak performance
- ✓ Shock and vibration resistant due to fully vacuum potted electronics
- ✓ Ecolab tested and approved
- ✓ Sensing face of glass or coated plastic
- ✓ Fiber-optic amplifiers (blue light and high frequency)
- ✓ Color sensor



### INDUSTRIES

Logistics, packaging, filling machines, printing, quality control, sorting processes, food and tobacco, wood processing machines

Housing size (s <sub>n</sub> mm)	$\square$ 40 x 40 x 19 mm	$\square$ 40 x 50 x 15 mm
Diffuse	2000	30 ... 1200
Reflex	6000	4000
Through-beam	15,000	50,000
Background suppression	-	30 ... 500
Color (diffuse)	-	30 ... 40



Sorting processes



Printing



# SENSORS

## PHOTOELECTRIC

### TOP QUALITY, RUGGED AND COST-EFFECTIVE CUBIC COMPACT

#### KEY ADVANTAGES

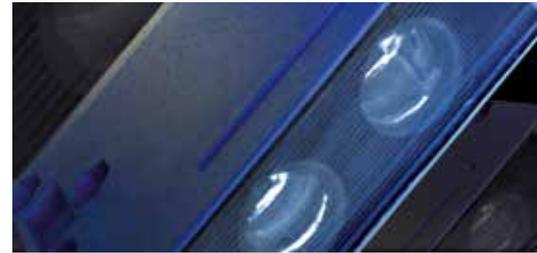
- ✓ Universal sensor series  $\square$  50 x 50 x 18 mm and  $\square$  65 x 83 x 25 mm for rough industrial applications
- ✓ Designed to cost
- ✓ AC/DC models
- ✓ Various connections possible



#### INDUSTRIES

Automotive manufacturing, machine tools, logistics, textiles, green energy, packaging, filling machines

Housing size (s <sub>n</sub> mm)	$\square$ 50 x 50 x 18 mm	$\square$ 65 x 83 x 25 mm
Diffuse	300 / 800	2000
Reflex	4000	6000
Through-beam	15,000	-
Background suppression	-	50 ... 1000



Packaging



Logistics



## PHOTOELECTRIC

### FIBER-OPTIC AMPLIFIERS, FIBERS

#### HIGHLIGHTS

- ✓ Wide range of fiber-optic amplifiers, including IO-Link
- ✓ Fiber-optic solutions for the most demanding environments
- ✓ Wide range of synthetic and glass fibers available



#### INDUSTRIES

Precision engineering, printed circuit board production, electronics, handling systems, vending machines, special machinery

Housing size (s <sub>n</sub> mm)	$\square$ 30 x 30 x 15 mm	$\square$ 31 x 60 x 10 mm	$\square$ 40 x 40 x 19 mm
Fiber-optic amplifier	60 / 120	200	150
Fiber-optic amplifier blue light	-	100	-
Fiber-optic amplifier IO-Link	-	200	-



Robotics



Printed circuit board production



## ULTRASONIC SENSORS

### RELIABLE DETECTION OF SOUND-REFLECTIVE TARGETS

#### HIGHLIGHTS

- ✓ Detection independent of target material, color, shape or surface
- ✓ Ready-to-use cylindrical sensors with integral connector
- ✓ Easy adjustment by either potentiometer or teach-in
- ✓ Dual output sensors, including analog and digital
- ✓ High resolution analog output, current or voltage
- ✓ Normal length or short housings and 90° sensing
- ✓ Reduced blind zone
- ✓ High excess gain – insensitive to dirt and ambient noise



#### INDUSTRIES

Packaging, food and pharmaceuticals

Operating principle (s <sub>n</sub> mm)	With back-ground supp.	With analog output	Diffuse & reflex	Reflex
Miniature (M12)	30 ... 400	30 ... 400	-	-
Small (M18)	30 ... 700	50 ... 1000	50 ... 1000	0 ... 700
Compact (M30)	-	60 ... 6000	60 ... 6000	-



Packaging industry



Food industry



## CAPACITIVE SENSORS

### COST-EFFECTIVE WITH ANY TARGET MATERIAL

#### HIGHLIGHTS

- ✓ Detection of virtually all target materials
- ✓ Easy adjustment with potentiometer and LED
- ✓ Detection through non-metallic pipes and containers
- ✓ Sensors for use in harsh chemical environments
- ✓ Reliable level control of sticky and viscous materials
- ✓ Sensors with hygienic, FDA-compliant, PTFE housings



#### INDUSTRIES

Plastics, food and pharmaceuticals, agriculture

Housing size (s <sub>n</sub> mm)	M12	M18	M30	Ø 26 mm/ G1	48,5 x 32 x 17 mm	120 x 80 x 30 mm
Basic	2	5 ... 8	10 ... 15	-	15	40
High performance	2 ... 4	5 ... 8	10 ... 15	5	-	-



Packaging and beverage



Food industry



# SAFETY

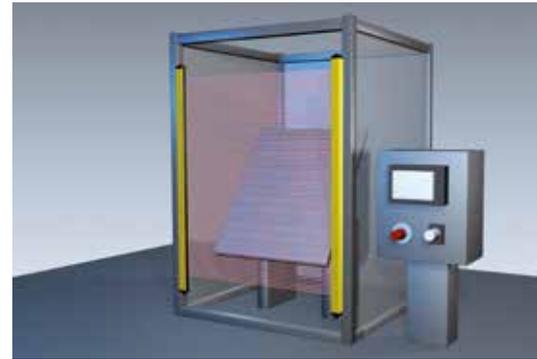
## EXCELLENT PRICE/PERFORMANCE RATIO

### HIGHLIGHTS

- ✓ Light-curtains for hand and finger protection
- ✓ Access control barriers with 3 or more beams
- ✓ IP 69K version available
- ✓ Performance Level PL e, according to EN ISO 13849-1
- ✓ Type 4 according to EN IEC 61496-1/2
- ✓ Automatic and manual restart mode, muting and stepping operation\*
- ✓ Device and mirror columns
- ✓ High quality at attractive prices



Hand protection devices on a bending machine for automotive industry



### INDUSTRIES

Automotive manufacturing, machine tools, logistics, textiles, green energy, packaging, filling machines

Resolution / beam gap	14 mm	30 mm	300 mm	400 mm	500 mm
Suitable for	finger protection	hand protection	access control	access control	access control
Available protective heights	142 ... 1690 mm	279 ... 1827 mm	932 ... 1532 mm	832 ... 1232 mm	1032 mm
Number of beams	17 ... 209	17 ... 113	4 ... 6	3 ... 4	3
Max. operating range	3.5 m	12 m	50 m	50 m	50 m
Automatic restart mode	✓*	✓*	✓*	✓*	✓*
Manual restart mode	✓*	✓*	✓*	✓*	✓*
Muting operation	✓*	✓*	✓*	✓*	✓*
Stepping operation	✓*	✓*	✓*	✓*	✓*
Category 4, type 4, PL "e"	✓	✓	✓	✓	✓
TÜV certification	✓	✓	✓	✓	✓
UL/cUL certification	✓	✓			

\*in combination with suitable Contrinex Safety Relay



# RFID

## TOTAL TRACKING - HIGH AND LOW FREQUENCY SOLUTIONS

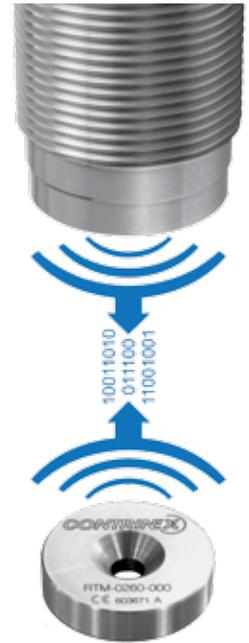
### HIGHLIGHTS

#### LF TECHNOLOGY FOR DIFFICULT OPERATING CONDITIONS

- ✓ Low frequency technology
- ✓ Mechanically and chemically resistant all-metal tags and read/write modules
- ✓ Tags embeddable in metal
- ✓ For operating temperatures up to +125°C (+257°F)

#### HF TECHNOLOGY (13.56 MHz)

- ✓ ISO 15693 compliant
- ✓ Networking of up to 253 read/write modules
- ✓ Net management via USB possible
- ✓ Handheld read/write devices
- ✓ Embeddable tags (even in metal)
- ✓ High temperature resistant tags up to +250°C (+482°F)



### INDUSTRIES

Automotive manufacturing, machine tools, logistics, textiles, green energy, packaging, filling machines

		Tags	Read/write modules	Interfaces
Low frequency	Plastic	✓		
	Metallic	✓		
	Plastic head		✓	
	Metallic head		✓	
	Handheld		✓	
	RS485			✓
	PROFIBUS-DP			✓
	DeviceNet			✓
	EtherNet/IP			✓
	PROFINet IO			✓
USB			✓	
High frequency	Plastic	✓		
	Embeddable	✓		
	High temperature	✓		
	Plastic head		✓	
	Handheld		✓	
	PROFIBUS-DP			✓
	DeviceNet			✓
	EtherNet/IP			✓
	PROFINet IO			✓
	EtherCAT			✓
	POWERLINK			✓
LF+HF	TCP/IP Desktop			✓
	TCP/IP Industrial			✓
	USB			✓





ALL OVER THE WORLD

**EUROPE**

- Austria
- Belgium\***
- Croatia
- Czech Republic
- Denmark
- Estonia
- Finland
- France\***
- Germany\***
- Great Britain\***
- Greece
- Hungary
- Ireland
- Italy\***
- Luxembourg
- Netherlands
- Norway
- Poland
- Portugal\***
- Romania
- Russian Federation
- Slovakia
- Slovenia

- Spain
- Sweden
- Switzerland\***
- Turkey

**AFRICA**

- Morocco
- South Africa

**THE AMERICAS**

- Argentina
- Brazil\***
- Canada
- Chile
- Colombia
- Mexico\***
- United States\***
- Venezuela

**ASIA**

- China\***
- India\***
- Indonesia

**Japan\***

- Korea
- Malaysia
- Pakistan
- Philippines
- Singapore\***
- Taiwan
- Thailand
- Vietnam

**AUSTRALASIA**

- Australia
- New Zealand

**MIDDLE EAST**

- Israel
- United Arab Emirates

\* Contrinex subsidiary

Terms of delivery and right to change design reserved.

**HEADQUARTERS**

**CONTRINEX AG** Industrial Electronics  
 route André Piller 50 - PO Box - CH 1762 Givisiez - Switzerland  
**Tel:** +41 26 460 46 46 - **Fax:** +41 26 460 46 40  
**Internet:** www.contrinex.com - **E-mail:** info@contrinex.com



www.contrinex.com

