

OUR EXPERTISE MAKES YOUR WORK EASIER

Datasensing is merging Datalogic's Sensor & Safety and Machine Vision business unit with M.D. Micro Detectors, both with 50 years of experience and representing the history of sensors in Italy since the early '70s. Our company is developing, manufacturing and supplying Machine Vision, Sensor and Safety, with more than 200 product lines, including 22500 standard and custom part numbers, protected by over 100 patents. Our products are designed to inspect, detect and protect your production in better and easier way, with diffused applications in industrial automation

Datasensing means high technology and innovative products... but it's the experience of our extraordinary people that makes the difference, from pre-sales to order processing and post-sales.

of manufacturing and intralogistics processes.

We have a global presence, with Headquarters in Italy and offices in Europe, China and US, together with a qualified network of distribution partners in all countries.

Datasensing not only focus on products, but also on Environmental, Social and Governance initiatives, as reducing the impact of products, production and logistics.

Our Mission is to create added value through smart sensing solutions based on sustainable standard and custom products, developed with care and leading know how.

Our Vision is to be the top of mind partner to innovate sensing solutions for industrial automation.



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MACHINE VISION

- SMART CAMERA
- INDUSTRIAL CAMERA
- INDUSTRIAL VISION PROCESSOR
- DEEP LEARNING SOFTWARE





Machine Vision offers the widest range of smart devices for in-line automated inspection and factory automation.

Smart cameras, industrial vision processors and machine vision software offer multiple solutions covering a wide range of performance and price point requirements.

Machine vision solutions can be used to identify parts through barcode, by reading characters (OCR), or recognizing patterns; to detect defects and locating parts; to guide robots' arms; to help control the process of the manufacturing line.

Smart cameras mean the flexibility of a full-blown vision system packed

into a compact housing, thus simplifying the device integration on the machine.

Industrial vision processors and cameras offer cutting edge image processing capabilities, enabling high-end multi camera machine vision solutions.

Deep Learning software addresses high-end quality inspection applications providing reliable results even in challenging and variable situations.

The easy and intuitive IMPACT configuration software is common to all smart cameras and industrial vision processors. It features over 120 inspection tools and controls to create unique inspection programs and develop user interfaces quickly and easily.



SMART CAMERA

P₁X

P2X

P3X













Ultra-compact cost effective smart camera offering advanced vision system functionalities in a fully embedded standalone device. The P1x Series is available with monochrome or color image sensors in two different resolutions: VGA and 1.3 MP.

smart camera providing Industrial exceptional inspection performance in a compact housing. State-of-the-art CMOS imagers with resolutions up to 2MP deliver maximum image quality.

High-end smart camera providing state of the art computing performance. With resolutions up to 5MP, P3x enables high-accuracy quality inspection and measurement applications.

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- Imagers: VGA and 1.3MP, CMOS mono or color
- Lens options: 6, 9, 12, 16, 25mm focal lengths
- Illuminators: Red, Blue, Infrared, White (polarized versions available)
- Digital I/Os: 2 IN / 3 OUT
- Connectivity: PROFINET, EtherNet/IP, ModBus, RS232, Ethernet TCP/IP
- Rotating connectors for straight vs 90° mounting
- IP67 rated housing
- Configuration through IMPACT Software

- Imagers: WVGA and 2MP, CMOS mono or color
- Lens options: Micro-video (6, 8, 12,5 and 17.5mm) or C-Mount
- Illuminators: Red, Blue, Infrared, White (polarized versions available)
- Digital I/Os: 2 IN / 3 OUT
- Connectivity: PROFINET, EtherNet/IP, ModBus, RS232, Ethernet TCP/IP
- Rotating connectors for straight vs 90° mounting
- IP67 rated housing
- · Configuration through IMPACT Software including advanced algorithms

- Imagers: WVGA, 2MP and 5MP, CMOS mono or color
- Lens options: Micro-video (6, 8, 12.5 and 17.5 mm) or C-Mount
- Illuminators: Red, Blue, Infrared, White (polarized versions available)
- Digital I/Os: 2 IN / 3 OUT
- Connectivity: PROFINET, EtherNet/IP, ModBus, RS232, Ethernet TCP/IP
- Rotating connectors for straight vs 90° mounting
- IP67 rated housing
- Configuration through IMPACT Software including advanced algorithms

- Packaging machinery
- Automotive
- General manufacturing

- Packaging machinery
- Robot guidance
- Electronics
- Automotive

- Electronics
- Robot guidance
- Automotive

VISION PROCESSOR	CAMERA	ACCESSORIES		
MX-E	E/M	ACCESSORIES		
	D			
Industrial Machine Vision Processors providing the highest performance in image processing with unmatched flexibility through GigE multi-camera connectivity support.	Range of GigE industrial digital cameras featuring latest CMOS imagers with resolutions from VGA up to 5MP.	Wide range of illuminators, lenses, filters, mounting unit and cables for vision sensors and cameras to fit any application.		
C€ ĽK	C€ ĽK	C€ ĽK		
 3 different computing power models: MX-E25 (entry level), MX-E45 (midrange), MX-E90 (high-end) Support from 2 to 8 independent GigE cameras simultaneously connected Digital I/Os: 16 IN / 16 OUT (NPN or PNP) Connectivity: PROFINET, EtherNet/IP, ModBus, RS232, Ethernet TCP/IP Configuration through IMPACT Software including advanced algorithms State-of-the-art Windows 10 IoT operating system 	Resolutions ranging from VGA up to 5 MP, available both in monochrome or color Linescan cameras with resolution from 2K up to 8K pixels Industry-proven GigE Vision connectivity standard Compact dimensions simplifying mechanical installation C-Mount lens support for extreme mounting flexibility	Spot, ring, linear, backlight, dome, co-axial illuminators available with different color wavelengths Micro-video, C-Mount, F-Mount and telecentric lenses Selections of optical filters to be mounted on camera lenses		
 Electronics Robot Guidance Packaging machinery	Electronics Robot Guidance Packaging machinery			

DEEP LEARNING SW



PEKAT





A state of the art software solution for industrial visual inspection and quality assurance based on proprietary advanced deep-learning algorithms and neural networks.

- Ease of use and wide hardware compatibility
- Universal application
- Fast integration
- Anomaly detection
- Surface quality inspection
- Object detection & classification
- Text reading & verification

- Automotive
- Packaging
- Electronics

SENSOR

- PHOTOELECTRIC
- INDUCTIVE
- CAPACITIVE
- ULTRASONIC





Sensors are essential in industrial automation to detect the presence of objects or parts, inspect the integrity or correct assembly, measure the dimension, distance or positioning.

Photoelectric are the most diffused and available in many different sizes, version, and functionalities, ranging from smallest to fastest objects, clear or shiny surfaces, color or invisible fluorescent marks, including dimension or distance measurement.

Inductive proximity are specific for metal parts detection at short distance, also in harsh environments with dust, liquids, oil or grease.

Capacitive sensors are used for detecting liquids or powder, also inside opaque and non-metal containers.

Ultrasonic sensors are suitable for transparent object detection (plastic film, glass, labels), with distance measurement capability.

Accessories include brackets and cables, IO-Link Master, fiber optics and reflectors for photoelectrics.

Manufacturing applications are widespread in automotive and electronics plants; food & beverage and pharmaceutical, processing and packaging machinery; woodworking, metalworking, textile, ceramic, glass, stones, paper, etc.

Logistics applications are automated material handling, conveyors, storage and retrieval, automated warehouses, distribution centers.



SMART SENSOR TUBULAR SUB-MINIATURE **SM-ALL SMART-VS** S5N / S5 DM SS/FA/FAL/FF IP69K M12 M18 Al enabled MLAS - Machine Learning Assisted Settina The first tubular sensor line with all optic M12 Photoelectric Sensors with different Wide range of models of M18, photoelectric subminiature photoelectric smart vision sensor with A.I. and empowered by machine functions and IO-Link V1.1 smart sensor models with Teach-in button for easy Sensors: general porpouse, laser and for universal optic learning assisted setting algorithms. profile on the market, a reference point for adiustment. harsh enviroments and food and beverage. Precise and effective detection also for hard Simply clever solution for all your presence the Industry 4.0. Stainless steel AISI 316 L ECOLAB and DIVERSY tested. application to reach objects in compact and orientation object detection applications. IP69K ECOLAB and Diversey models (S5N... machineries with narrow spaces. NA...) are also available. $C \in$ ϵ c(VL)us (Ex) CE **ECOLAB** Diffuse proximity up to 700 mm • Fixed focus proximity 15, 20, 30, 50 cm Machine Learning Assisted Setting Infrared emission Red. infrared and laser emission • Background suppression up to 150 mm Models with and without adjustment · No vision Tools programming required • Diffuse up to 300 mm • 1.5 m retroflective and 1 m polarized • Contrast sensor 10 mm ±2 mm Adjustment trimmer, teach in button retroflective No need of skilled installers just • Polarized 2.5 m • All the optic functions are available and Innovative inductive Teach-in photosensor like setting • 2 m through beam models Robust EMI immunity function through sensors's housing (FF) • Through-beam 4m Improved ambient light immunity • Diffuse up to 1.5 m • Deterministic response time 50 ms NPN or PNP output with NO-NC output • PNP or NPN output with remote Teach-in M18 flat plastic with universal mounting Polarized up 4.5m and 30m (Laser) 4 wires connection with 2 m Cable • 50...150 mm detection distance Available in M18 metal housing Through-beam up 20m and 50m (laser) • Cable 2 m or M12 plug connection Axial or radial optics, cable or connector • For transparent objects up 1,5m • TEACH Button and comprehensive UI IP67 Plastic subminiature case • 4 wires selectable NO/NC output Standard 4-wire NO-NC NPN or PNP • Background Suppression up to 300 mm with 5 status LEDs (laser emissinon 150 mm) M12 metallic housing • 50...150 mm operating distance with Complete configuration of the NPN/PNP Available with plastic and metal housing electronic focus control output and L/D models (S5) AISI316L Stainless steel housing (FF) • IO-Link V1.1 COM 2 Smart sensor profile • IP67- IP68, IP69K (FF) • Smart-VS Plus model available • INOX AISI 316 L models are available Axial or right angle optical to handle more images and more S5N...NA compliant with Ecolab and Ecolab and Diversey certification connectivity features M18 or smooth housing Diversy Processing and packaging Transport and handling lines Assembly lines Food & Beverage Bottling lines Machines for the Cosmetic and Pharmaceutical sector Processing and Packaging Packaging line Ceramic intralogistic Processing and Packaging Conveyors, material handling Assembly machine Processing and Packaging Electronics assembling Ceramics intralogistics Wood and glass industries Small appliance and vending machines Automated warehousing Assembly machine Conveyor line

MINIATURE

S100



Universal miniature photoelectric sensor with best price on the market, standard miniature dimension and universal mounting feature for guick and easy mechanical and electrical installation.

S₃Z



High performance in standardized miniature housing. Replaces larger sensors and fits in limited space in smaller machinery.

S3N



Top performances in a very rugged and miniaturized standard housing. Complete solution for any detection application in any automation industry. Available with trimmer and Teach-in models with high connectivity features thanks to extended IO-Link communication.

QM



Wide range of models of cubic miniaturized sensors.

QF

IP69K



Cubic miniaturized IP69K photoelectric sensors for harsh environments and food and beverage applications.

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CE







IO-Link







CE













② IO-Link

- Through beam 12 m
- Retroreflective 7 m
- Polarized retroreflective 3 m and 5.5 m
- Diffuse proximity 30 and 50 cm
- Fixed focus 70 mm
- Background suppression 100 mm and 200 mm
- NPN or PNP output with L/D input
- 2 m cable or M8 connector version
- IP67 plastic miniature case
- M3 x 2 slotted holes on the back side
- M3 threaded holes on the front side

- Diffuse proximity 15 or 70 cm
- Background suppression Red LED or
- Polarized RRX 4 m. Coaxial for Trasp. 2
- Through-beam 15 m and Laser 30 m
- 3 wire connection with 2 m Cable or M8 connector
- IP67 Plastic miniature case
- M3 threaded holes on the front side

- Bright LED and Laser emission models
- Teach in and trimmer adjustment models
- Smart Background suppression functions
- Shiny and clear object detection
- Diffuse proximity up to 100 cm LED Background supp. up to 800 mm (on White)
- Polarized LED RRX 7 m, Laser 12 m
- Coaxial RRX for transparent 2 m
- Through beam LED 15 m and Laser 30 m
- Very High speed and very low jitter
- Connection wirh 2 m cable, pig tail and M8 connector
- Rugged IP67 Plastic miniature case
- Mounting threaded M3 metal inserts
- IO-Link double channel with smart task

- Red and infrared emission
- Background Suppression up 400 mm
- Diffuse up to 1.5 m
- For transparent objects up to 4 m
- Through-beams up to 30 m
- PNP and NPN -NO/NC output
- 2 m cable, M8 4 poles connectors and pig-tails M12 and M8

- Red and infrared emission
- Diffuse up to 1 m
- Background Suppression up to 200 mm
- AISI316L Stainless steel housing
- IP67, IP68, IP69K degree
- 4 wires PNP or NPN NO + NC output

- Processing and Packaging
- Conveyor lines, material handling
- Automated warehousing

- Laser 50-300 mm
- m, Laser 10 m

- Processing and Packaging
- Electronics assembling
- Small machinery and access control
- · Conveyor and logistic lines
- Food, cosmetic and Pharma industries
- Wood and glass industries
- General purpose

- Conveyor and logistic lines
- Food, cosmetic and Pharma industries
- Wood and glass industries
- General purpose
- Automatic machines

- Food industries
- Chemical industries
- Process application

СОМРАСТ		MAXI	FORK	
S8	S62	S300 PA/PR	SR21/SR23	SRF/FC5/FC6/FC7
IР69K	50 x 50			
The Compact sensor format to solve difficult detection applications (i.e. target objects that are too small, too fast, too clear, too shiny). Performance oriented family available also with AISI 316L housing models.	50×50 Standard universal sensor with improved performance and pricing. Wide range of optic functions in a compact industry format with stadard 50×50 mm housing, mounting holes, installation and wiring.	Heavy duty, multi-voltage sensors with terminal block and internal relay Durability for integration in outdoor applications and harsh environments.	High-resolution, very fast response time fork sensor for precise positioning, applying and printing of labels, even when integrated in fast machinery and processes.	Optical slot sensors with high precision, for detection of objects, labels and trasparent film.
CE EK COLORS EX	C € EA comos	CE EK COLORS EX	CE FR OFF	C€ CH c∭ns
ECOLAB O IO-Link				
 Background suppression 50-300 mm, Laser 20-200 mm Background suppression for transparent objects with reflective background Polarized retroreflective 5 m, Laser 10 m, Coaxial for transparent objects 2 m RGB Contrast sensor 6-12 mm, 25 kHz switch. freq. UV Luminescence sensor 10-30 mm, 2 kHz switch. freq. NO-NC outputs with 2 m Cable or M8 connector IP 67 Plastic case and IP69K stainless steel version (ECOLAB and DIVERSEY) Compact dimensions (14 x 42 x 25 mm) Stainless Steeel AISI 316 L models ATEX 3DG 	 Diffuse proximity 90 or 200 cm, Laser 90 cm Background suppression 30, 60, 120, 200 cm, Laser 15, 35 cm Retroreflex 13 m, Polarized 8 m, Laser 20 m Through beam 25 m 10-30 Vdc version with NO-NC, NPN or PNP output Multivoltage 24-240 Vac/24-60 Vdc with Relay output 2 m cable or M12 rotatable connector 	 Diffuse proximity 2 m (-PA), 5 m (-PR) Background suppression 2 m (-PA), 2.5 m (-PR) Polarized retroreflex 7 m (-PA), 22 m (-PR) Through beam 50 m (-PA), 60 m (-PR) 10-30 Vdc version with NPN or PNP outputs Multi-voltage with Relay output and terminal block Configurable timing function for turn-ON/OFF delay IP67 plastic case, fiber glass reinforced I/O link connection M3 x 4 slotted holes on the back side M3 threaded holes on the front side 	 Slot width 2 mm or 5 mm and depth 50 mm for normal label or booklet label detection Up to 20 µs response time and 25 kHz switching frequency IR LED emission for label detection on translucid reel Red/Green LED emission for color mark detection Auto-Set for Teach-in or dynamic threshold setting NPN and PNP outputs with M8 4-pole connector Compact and robust metal case with IP65 protection Ecolab and Diversey certification 	 Red, infrared and laser emission Wide range of models, width 2 mm up 180 mm and depth up 120 mm Minimum object detection up 0.05 mm (laser) Dynamic and static Teach-in via cable or by buttons NPN or PNP output with M8-4 poles NPN or PNP Lo/Do output with M8 3 poles
 Processing and Packaging Food and Beverage Industry Cosmetic and Pharmaceutical industry Electronics assembling 	 Processing and packaging Conveyor lines, material handling Automotive assembly, intra-logistic 	End-of-line packaging, palletizers Outdoor or indoor gates control Manufacturing plants	Packaging and labeling machinery Print and apply systems	 Packaging and labels lines Beverege and glass industries Electronic industries Edge detection

COLOUR, CONTRAST & LUMINESCENCE

DISTANCE MEASUREMENT



TL46

ULTRA

JITTER

COLOR MODE

ADVANCED

LD46



Very high resolution, White, Red or RGB emission, very fast response time Thanks to its new very Low litter models performs ultra precisely in packaging machinery and synchronization based mark detection, even when used in extremely fast processes.



UV high power emission LED with high sensitivity Precise packaging machinery synchronization or material sorting and selection based on luminescent "invisible" mark detection.





50 x 50



Class 2 laser distance sensor based on triangulation with a resolution of 10 um. S67-Y is available as long range (Y13) or Short range (Y03) with analog output.



Cost effective Long Range Background Suppressor with Time Of Flight (TOF) technology and Infrared emission in a compact and standard 50 x 50 sturdy housing. Equipped by a powerful green pointer for easy target alignment.



Long range distance sensor with Time Of Flight technology in diffuse mode. High resolution and accuracy available in two models up 10 m. and up to 20 m. Graphic display model available with Push button TEACH IN Adjustment in a compact sturdy metal housing.



















S85





IO-Link

- Operating distance 6-12 mm (80 mm with acc. lens)
- Bright light emission with Red, White, or RGB LED
- Mark/Background automatic, manual and dynamic setting
- Contrast / Color detection mode
- Trimmer or Teach-in setting with 4 digit display version
- Very fast switching frequency 15, 20, 25, 30 or 50 kHz
- Very high precision model with less than 7 us iitter
- Extended Smart functions and diagnostic with accelerometer models
- Configurable NPN/PNP and 0-5 V analogue output
- Standard metal case with IP67 protection and IP69K
- Packaging and labeling
- Food & Bev., Cosmetic, Pharma industry
- Printing machinery

- High power UV light emission at 375 nm wavelength
- Operating distance 10-20, 20-40, or 30-50 mm
- Teach-in setting and manual threshold adiustment
- 5 segments bar graph for sensitivity level indication
- Fast response time 250 µs and switching freq. 2 kHz
- NPN and PNP outputs and and 0-5 V analogue output
- Standard metal case with IP67 protection
- Soiling indicator and Alarm Output.
- Sturdy metal Die-cast zinc IP67 housing

- Operating distance 50...300 mm (Y03)
- Operating distance 100...600 mm (Y13)
- Resolution of 10 um @ 50mm. distance on white 90% remission. (Y03)
- Response time less than 0.9 ms (Y03)
- Linearity error of +/-0.03 mm @ 50 mm range. (Y03)
- Analog Voltage models with 0V-10V protected output
- Analog Current models with 4-20 mA protected output
- IP67 compact metal housing

IO-Link

- Long Range background suppression detection up to 5 m
- Cost effective solution for precise and reliable detection
- Risk-free Infrared LED emission and embedded green LED pointer
- Glossy and clear object surface detection model available
- Two independent fully programmable outputs
- NPN/PNP or IO-Link connection models
- Rugged plastic housing in compact 50 x 50 x 24 mm format
- Standard M12 8-poles connector

- Time Of Flight (TOF) sensor with Red Laser emission
- Detection and measurement range up to 10 or 20 m
- 1 mm resolution/repeatability and 7 mm accuracy
- 4-20 mA or 0-10 V scalable analog output and 2 push-pull digital outputs
- RS485 serial interface
- Built-in graphic display and push buttons
- PNP switching output and 0-10 V analog output

- Packaging and labeling
- Food & Bev., Cosmetic, Pharma industry
- Printing machinery

- Metal working
- Assembly lines
- Automotive industries

- Presence of all medium and large sized objects on conveyors
- Critical object detection in front of problematic background
- Packaging end of line
- Paper reel unwinding control
- Automated warehousing
- Trans-elevator and crane
- Automotive assembling lines
- Non-LFT measurement in logistic

AREA FIBER OPTIC AS1/DS1 CX0/CX2 CR0/CR1/CR2 BX10/BX80 S70/S7/FY IP69K resolution area sensor Compact Area Sensors. Detection of small Slim Area Sensors, detection and Retroreflective Polarized Area Sensors. The compact and advanced fiber optic measurement of small objects crossing the object in the controlled area, crossed beams. amplifier sensors with competitive price measurement with crossed and parallel area, even in a random positions. beams. and features, double display, high speed and contrast sensitivity models are also available including IO-Link connectivity. CE K COLUMN EX CE R c@nººº CE IO-Link **○ IO**-Link • Diffuse fiber optics up to 500 mm (S70) AS1 Area Sensor for small object Control heights up to 90mm Control heights from 160 mm to 960 Control heights from 70 mm to 310 mm detection • Through beam fiber optics up to 1800 mm (S70) Standard distance 2 m, models with Sensing distance up to 4.5 m Red or White LED emission for contrast DS1 Light Array for small object maximum distance up to 6 m Sensing distance up to 6 m Adjustment with Teach-in button detection measurement PNP and NPN switching output • Pitch 5 mm. 10 mm. 20 mm Double 4-digit display (S70) Optical pitch 10 mm Minimum object detection Ø 6 mm or 4-digit display and Teach-in or trimmer PNP and NPN outputs, 0-10 V and 4-20 Models with syncronization by Cable flat 0.2 x 75 mm PNP and NPN outputs setting (S7) mA analogue outputs and PNP and 0-10 Minimum measurement resolution 7 Models with IP69K protection degree • 10 bits (1024 points) or 12 bits (4096 Blanking function V outputs mm or 4 mm points) resolution Models with aluminium enclose and air Adjustment by teach-in via Cable • Switching Freq. 1kHz, Fast 5 kHz, Ultra- Heights ranging from 100 mm (16 cooling inlet fast 10 kHz and 50 kHz beams) to 300 mm (48 beams) Blanking function ATEX models 2GD and 3GD • NPN or PNP output with 2 m cable or Standard distance 2 m and Long M8 connector distance up to 4 m Configurable timing function for turn- PNP switching output and 0-10 V analog ON/OFF delay output • IP67 plastic case, fiber glass reinforced Wide range of optical fibers • Processing and Packaging machinery Processing and Packaging Processing and Packaging Processing and Packaging machinery Conveyour and logistic lines Food, Cosmetic and Pharma industries Conveyor lines and Intralogistic Electronics assembly Automation Assembly Food, cosmetic and Pharma industries • Electronics and mechanical assembly Metal working · General manufactoring Wood and glass industries Pharmaceutical industry Conveyor lines and sorting systems Automatic machines

ACCESSORIES FOR PHOTOELECTRIC SENSORS SPECIALITY Optic fiber Reflector INC **VBR** FL Prismatic and microcube reflectors for M18 inclinometer sensor with AISI31L full Complete range of universal plastic and M18 vibration sensor with AISI31L full Compact cylindrical photoelectric sensor glass optic fibers for coaxial, diffuse, photoelectric sensors available in many metal stainless steel housing. metal stainless steel housing. through-beam high power and wide angle different shapes, dimensions and efficiency. use in washdown environment. through-beam and area detection. (€ IK (€ IX C€ FR C€ K C€ K • Glass and plastic fibres Self adhesive paper for polarised MFMS inside MFMS inside Compact cylindrical body with M18 for fixed sensors • Extra-flexible versions Single axis • 3-axes Plastic reflectors • Through-beam: 2 models • High-temperature versions (up to • 0...360° · Working frequency: 0...400 Hz (VBR1) or 0...1250 Hz (VBR2) 250°C) • Plastic reflectors with micro prism for • Standard and high distance, up 30 m Resolution: 0.025° laser sensors • High-efficiency versions • RS485 + analogue output • Plug and play, not adjustment • RS485 + analogue output Focusing, collimating and deviating Wide beam lenses Coded emission anti mutual interference system • IP69K on optical head

- Beverage & Bottling
- Packaging lines
- Electronics

- Sluice gates position for water control
- Automotive
- Solar panel position for green energy production
- Industrial air conditioning
- Escalators
- Optical sorting machines
- Shaft rotation
- Paper & cardboard industry
- Washdown environment (carwash)
- Logistics

MINIATURE CYLNDRICAL	MINIATURE CUBIC	CUBIC	STANDARD	MULTIVOLTAGE
AA/AB/AC/AD/AES/AHS	IL5/IL8/IL9/IL1	IS40	AH/AE/AM/AK/AT/IS	V3/V*2
Miniaturized inductive sensors from diameter ø3 mm to M8. Where small spaces required small dimensions.	Cubic inductive sensors: 5 x 5 mm, 8 x 8 mm (with top and centre detection head), 10 x 28 x 16 mm.	40 x 40 mm. Versatile and flexible for various applications in the machinery thanks to the connector rotable in any direction.	From diameter ø 6,5 mm to M30. Reliable detection of any metal part.	AC sensors with M12, M18 and M30 housing (V*2 series). AC/DC sensors with M8, M12, M18 and M30 housing (V3 series).
CE EK cÜLus Ex	CE EK (W) us (Ex)	C€ ĽK	CE EK c AL us	CE UK culus
 Sensing distance from 0.6 mm (ø3) to 2 mm (M8) Shielded models. AISI303 housing. NPN or PNP, NO or NC IP67 protection degree 	 5 x 5 mm with sensing distance of 0.8 mm and 1.5 mm (IL5 series) 8 x 8 mm with sensing distance of 1.5 mm, 2 mm and 2.5 mm (IL8/IL9 series) 10 x 28 mm with sensing distance of 3 mm and 6 mm (IL1 series) NPN or PNP, NO or NC 	 40 x 40 x 118 mm: terminal block, 15 mm (shielded), 30 mm (unshielded). 40 x 40 x 66 mm: M12 plug, 15 mm (shielded) PNP or NPN, NO+NC. AC/DC, NO or NC Models with analogue outputs 0-20 mA: 720 mm (shielded) 	 Diameters ø 6,5 mm, M8, M12, M18 and M30 Single and double range Shielded or unshielded models NO or NC, NPN or PNP output and programmable versions 	 Shielded and unshielded models V*2 series available with standard distance V3 series available with enhanced distance V3 series models protected against short circuits in AC and DC!
 Grippers. Electric spindle Rotary actuators	Grippers Tobacco industry	Processing and Packaging machinery Assembling and conveyor lines Metal working and machine tools	Processing and Packaging machinery Assembling and conveyor lines Metal working and machine tools	Processing and Packaging machinery Assembling and conveyor lines Metal working and machine tools

HIGH PERFORMANCE

FM/PF

M8-M30



From M8 to M30 housing. AISI316L housing full metal body (FM series). (M8-M30) Designed for washdown applications (PF series). (M12-M18)









ECOLAB

- Enhanced distance
- FM series: high resistance to impact on the sensors' head (up to IK10 for M30 models)
- PF series: working temperature range -40°C...+80°C and -25°C...+110°C
- IP69K protection degree

- Processing machines
- Metal working
- Washdown applications
- Application with increased temperature range requirements

CYLINDRICAL	CUBIC	FOOD
C12/C18/C30	CQ50/CQ55	C18FT/C30FT
M12-M30	A 3	NEW!
From M12 to M30. Detection of all types of materials: solids, liquids, powders.	CQ50: flat sensor with fixed working distance. CQ55: compact housing with sensitivity adjustment.	M18 and M30 capacitive sensors suitable for applications in food and beverage and pharmaceutical industries.
C€ ĽK cŴus	C€ ĽK cŴus	CE EK CULUS
		ECOLAB O IO-Link
 Plastic and metal housing Sensitivity up to 25 mm High immunity to EM noises 	CQ50: designed for civil application. NPN or PNP, NO or NC CQ55: designed for industrial application.Enhanced immunity to EM noises	 PTFE housing FDA compliant IP69K and IP68 mechanical protection ECOLAB certified sensors IO-Link communication High EMC immunity
Level detection Detection of composite materials	Level detection Detection of composite materials	Liquid or powder level measurement Bottle filling control Bottle cap control Detection of food presence inside package

TUBULAR CUBIC / M18 UK1/UK6 UT1B/UT2F/UT5L US18-PA/PR **UFT** US18-PL M30 M18 M30 M18 IP69K US18-PL series provides a wide operating M18 ultrasonic sensors, with both standard M30 ultrasonic sensors, from ø30 mm US18-PA/PR series guarantees a small M30 full metal ultrasonic sensors for or short body (where application ask for a transducer to large front transducer for blind zone providing a wide operating extreme applications (food and pharma). range and fast operating frequency, they limited installation space). longer detection distances. range, are available in two different barrel are available in cubic style with M18 housings with discrete or analog output. mounting and discrete outputs. C€ FR cŲLus €x C € ĽK cŲLus C€ \\ C UL US ECOLAB IO-Link IO-Link • Sensing distance from 300 mm to 2200 Sensing distance from 3500 mm to • Sensing distance 30...300 mm Sensing distance: 2500 mm Sensing distance 50...500 mm 8000 mm • Full metal housing AISI316L stainless • Analog model resolution: 0.5 mm Repeatibility: 0.7 mm • Plastic housing models and stainless Plastic housing models and stainless (SLOW mode), 1 mm (FAST mode) steel Cubic housing with M18 right angle steel models steel models M18 tubular plastic housing with axial IO-Link adjustment mounting • PNP, NPN, Analogue (current or PNP, NPN, Analogue (current or and right angle sensing • PNP, NPN, Analogue (current and Discrete PNP or NPN output voltage), IO-Link outputs, double digital voltage), IO-Link outputs, double digital Discrete bipolar output (1 NPN and 1 voltage) output Models with remote teaching and or mixed outputs (standard) or mixed outputs PNP) or with 4-20 mA or 0-10 V analog M12 plug output models with the teach-in button · Adjustment via Teach-in button Models with remote Teach-in and output IP69K protection degree M12 plug (standard body) or via cable (short body) models with the Teach-in button Models with remote teaching and M12 plug and cable output FCOLAB certification • IP67. NEMA 6-P rated models with the Teach-in button M12 plug and cable output; • IP67 protection degree • IP67 protection degree M12 plug • IP67. NFMA 6-P Food industry Packaging machines Solar energy · Level detection within tanks and silos Grippers. Wood and glass Agriculture • Electric spindle · Pharma industry Beverage & Bottling Agriculture Rotary actuators Automotive assembling line Zootechnics Pharma industry

	FORK		ACCESSORIES FOR ALL TYPE	PE OF SENSORS
UQ1	FC8	SRX	Mounting	Connection
	AD CO			
M18 thread + cubic housing ultrasonic sensor with both the advantages of a cylindrical and a cubic sensor for the mounting conditions.	Ultrasonic slot sensors with high switching frequency to detect any type of labels opaque and transparent.	SRX-3 introduces state-of-the-art ultrasonic technology able to detect any type of label dispensed on any type of roll support, allowing seamless detection of transparent label on clear roll support or to check single/double clear films.	Mounting brackets with different shapes and materials. Optics adapters like shutters, slits, focal lenses and beam adapters.	M8 and M12 standard connectors and cables available with different lengths, materials, poles numbers and configuration.
CE K COUS	CE K Wus	CE K COUS	C€ ĽK	C€ ĽK
⊘ IO -Link				
 300 mm to 1200 mm Plastic housing PNP, NPN, Analogue (current or voltage), IO-Link outputs, double digital or mixed outputs (standard body) Adjustment via Teach-in button M12 plug in IP67 protection degree 	 High resolution up label 2 mm with gap 2 mm High swithing frequency 1500 Hz Dynamic and static teach-in via cable or by buttons Aluminium housing NPN and PNP output with M8 4-poles Rugged and sturdy aluminium housing 	 Dynamic or static teach models Slot size 3 mm High resolution up to 2 mm label gap M8 connector with PNP or NPN output M12 connector with PNP/NPN output and external Teach-in Rugged and sturdy aluminium housing 	 Brackets for cylindrical sensors Brackets for rectangular sensors Shutters, right angle beam adapters and focalizer for optical sensor 	 M8 and M12 with PVC or PUR cable M8 and M12 field attachable connectors IP67 and IP69K protection degree Models from -40°C to 105°C Sensor tester with digital and analogue output
Food industry Pharma industry	 Packaging and labeling lines Detection transparent, opaque and metalic labels double sheet detection 	 Detection of transparent, opaque, or metallic ink labels Double sheet detection Adhesive surface detection 		

SAFETY & GUIDANCE

- SAFETY LIGHT CURTAIN
- SAFETY LASER SCANNER
- LIDAR
- ENCODER





Safety optoelectronic devices are safety light barriers, curtains, grids, light beams and control units, used for the detection of finger, hand, arm, body, or presence detection in fixed applications.

Safety devices are mandatory for operator's protection in potentially

hazardous areas, plants or machinery.

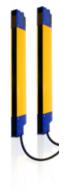
Safety laser scanners are suitable for configurable area protection or even dynamic applications, in particular robotic cells and automated guided vehicles (AGV).

Safety accessories include cables, connection box, brackets, IP69K protection tubes, lens shield, laser pointer, test pieces.

Manufacturing industry applications include automotive and electronics plants, especially robotic cells; food & beverage, pharmaceutical, chemical goods processing and packaging machines; any machinery used in woodworking, metalworking, textile, ceramic, glass, stones, paper, etc.

Logistics applications are diffused in automated material handling, conveyors, storage and retrieval, automated warehouses, and AGV. Furthermore, logistics applications are integrated by Lidars for guidance and navigation, and encoders for the vehicle speed measurement.











SAFETY LIGHT CURTAIN

SH4

A complete family of state-of-the-art safety light curtains, covering all resolutions and functionality levels.

From basic to wireless programmable models, all needs covered.

SH4 REFLECTOR



Retroreflector version of SH4 series, with base, standard and advanced functionality. with only one side active, to reduce installation costs in body protection applications.

SG2/SG4



Finger and hand presence safety detection with basic functions

High reliability, easy installation and alignment, cost effective solution for simple protection needs.

SG4 EXTENDED



Finger and hand safety detection with possibility of configuration of advanced functions through pushbuttons or Graphic User Interface. Extended flexibility that fits a diverse range of machine needs, combined with possibility of Ethernet connection for remote monitoring.

SG BODY / REFLECTOR



Body safety protection and perimeter access control

High reliability, easy installation and alignment, cost effectiveness.









































- Safety Type 4 (Pl=e, SIL3)
- Resolution Finger 14 mm; Hand 30mm; Body 2, 3, 4 beams
- Zero dead zone on all finger/hand resolution models
- Controlled heights from 300 to 2250 mm (n x 150 mm)
- Operating distance: Finger 10 m; Hand 20 m; Body 70 m
- · Basic models: Auto restart, alignment
- Standard models: Auto/Manual restart, EDM, 2 signals T/L muting, DIP-SW configurable
- · Advanced models: Partial muting, 4-signals T muting fixed and floating Blanking, wireless diagnostic and programming
- Processing & packaging machines
- Palletizers
- Automatic assembly machines and lines

- Safety Type 4 (Pl=e, SIL3)
- Resolution Body 2, 3, 4 beams
- Controlled heights: 500/800/900/1200
- Operating distance: 2/4 beams: 8 m; 3 beams: 6.5 m
- Basic models: Auto restart, alignment
- Standard models: Auto/Manual restart, EDM, 2 signals T/L muting, DIP-SW configurable
- Advanced models: Partial muting, wireless diagnostic and programming. 4-signals T muting

- Safety Type 2 (Pl=c, SIL1); Safety Type 4 (Pl=e, SIL3)
- Resolution Finger 14 mm; Hand 30mm; Pres. 50/90 mm
- Controlled heights from 150 to 1800 mm (n x 150 mm)
- Operating distance: Finger 6 m; Hand 19 m; Pres. 9/19 m
- Auto/Manual restart; EDM; Antiinterference coding
- Easy and cost effective standard M12 5-pole connector

- Programmable Safety Light Curtain Type 4 (Pl=e, SIL3)
- Resolution: Finger 14 mm; Hand 30 mm • Controlled heights from 300 to 1800 mm (n x 150 mm)
- Operating distance: Finger 7 m: Hand
- Compact; No dead zone; up to 3 cascadable units
- Fully programmable: Auto/Man restart, EDM, coding, Muting (T/L, total/partial,
- with/without timeout, etc.)
- Fixed/floating blanking; reduced resolution function
- Ethernet Port, SG Dongle and Graphic User Interface

- 35 x 40 mm standard compact profile
- 2, 3 or 4 beams for Body protection and access control
- Controlled heights of 500, 800, 900. 1200 mm
- Long operating distance up to 50 m
- Dip-switch configuration of Auto/Man, EDM, Coding
- · Muting version with L or T integrated arms and lamp
- Easy and cost effective standard M12 connectors

- Automatic machinery
- Material handling
- Automotive, metalworking, presses

- Automatic machinery
- Material handling Processing & packaging machines
- Palletizers

- Automatic machinery
- · Metalworking, Woodworking
- Manufacturing (textile, ceramics, etc)
- Material handling, assembly lines
- Processing and packaging machines
- Automotive, metalworking, presses
- Manufacturing assembly lines
- Palletizers/depalletizers
- Conveyor lines
- Automated warehousing
- Manufacturing lines

ACCESSORIES





SAFETY LASER SCANNER

ACCESSORIES

SLS

SLS PROFISAFE

Laser scanner acc.







LASER SENTINEL is the innovative solution for safe area protection in a large variety of applications in automation and intralogistic industries. It offers a complete and flexible solution for the safeguard of robotic cells, automated guided vehicles and general machinery.

LASER SENTINEL is the innovative solution for safe area protection in a large variety of applications in automation and intralogistic industries. It offers a complete and flexible solution for the safeguard of robotic cells, automated guided vehicles and general machinery with Profinet and Profisafe fieldbus integration

Mounting and protection brackets, together with peripheral modules and interfaces to expand the devices application range.





























- Type 3 / PL d / SIL 2
- Max. distance: up to 5.5 m (safe) for 70 mm resolution
- Opening angle: 275°
- Minimum response time: 62 ms
- STANDALONE version: pigtail with M12 connector - up to 6 switchable zone sets
- MASTER-SLAVE version: M12 connector - rotating connectors for programming and connection to slavessafe communication between up to 4 scanners - up to 70 switchable zone sets
- Programming, monitoring and measurement data: Ethernet
- Dimensions (w,d,h): 102 , 112.5 , 152 mm
- Auto/manual restart, EDM, partial dynamic muting, override, speed measurement, shut off
- Fast replacement
- Processing machines.
- Metal working.
- Food and bevedage applications.
- Application with increased temperature range requirements.

- Type 3 / PL d / SIL 2
- Max. distance: up to 5.5 m (safe) for 70 mm resolution
- Opening angle: 275°
- Minimum response time: up to 86 ms
- switchable zone sets : up to 70
- Simultaneous safety/warning areas :
- Programming, monitoring and measurement data: Ethernet
- Fieldbus integration: Profinet and Profisafe
- Dimensions (w.d.h): 112 x 120 x 160
- · Auto/manual restart, EDM, partial dynamic muting, override, shut off, dynamic reference points
- Fast replacement
- Processing machines
- Manufacturing processes protection
- Intralogistic lines protection
- Automated Guided Vehicles (AGV)

- Adjusting bracket
- Protective bracket
- Memory module
- Optic window
- Relay interfaces
- Window cleaning-kit



LIDAR

LGS-N50

LGS-N25

LGS-A10



Lidar Guidance Scanner is a compact, rugged navigation Lidar based on time-offlight (TOF) infrared laser technology for the market of Automated and Laser Guided Vehicles or Forklifts, used for intralogistics and manufacturing.









LGS-N25 is a really miniaturized rugged navigation Lidar based on time-of-flight (TOF) infrared laser technology for the market of Automated and Laser Guided Vehicles or Forklifts, used for intralogistics. manufacturing, agriculture and working means

LGS-A10 is a really miniaturized rugged collision avoidance Lidar based on time-offlight (TOF) infrared laser technology used for the market of Automated and Laser Guided Vehicles or Forklifts, intralogistics. manufacturing, agriculture and working means and more.























- ToF technology on infrared laser
- 2D Measurement data for natural or marker navigation
- 360° measurement for all-round scanning
- Differentiation between natural objects and reflectors
- Scanning rate 10/15/20/25 Hz
- Measurement rate 60000 points/s
- Measurement range: 0.2 2 m with 1.8% reflectivity / 0.2 - 15 m with 10% reflectivity / 0.2 - 50 m with 80% reflectivity
- Dimensions (w,d,h): 95 x 97 x 116 mm
- Communication interface: IEEE 802.3u 100 Mbps Ethernet
- Configuration software: Any web browser (configuration through web server)

- ToF technology on infrared laser
- 2D Measurement data for natural or marker navigation
- Available for outdoor
- 360° measurement for all-round scanning
- Scanning rate 10/15/25 Hz
- Angular resolution: up to 0,25°
- Scan Rate : up to 25 Hz
- Measurement range: 0.1 5 m with 2 % reflectivity / 0.1 - 10 m with 10% reflectivity / 0.1 - 25 m with 80% reflectivity
- Dimensions (w,d,h): 65 x 65 x 70 mm
- Communication interface: IEEE 802.3u 100 Mbps Ethernet
- · Configuration software: Any web browser (configuration through web server)

- ToF technology on infrared laser
- 2D Measurement data for natural or marker navigation
- Available for outdoor
- 360° measurement for all-round scanning
- Scanning rate 10/15/25 Hz
- Angular resolution: up to 0,25°
- Response time: up to 40 ms
- Up to 3 simultaneous outputs
- Up to 15 different zone set
- Measurement range: 0.1 5 m with 2
 % reflectivity / 0.1 10 m with > 10% reflectivity
- Dimensions (w,d,h): 65 x 65 x 70 mm
- Communication interface: IEEE 802.3u 100 Mbps Ethernet
- Configuration software: LGS-PRO User Interface

- Automated Guided Vehicles (AGV)
- Laser Guided Vehicles (LGV)
- Automated Guided Forklifts (AGF)
- Autonomous Mobile Robot (AMR)
- Automated Guided Vehicles (AGV)
- Automated Guided Forklifts (AGF)
- Autonomous Mobile Robot (AMR)
- Agricolture machine, access monitoring
- Automated Guided Vehicles (AGV)
- Automated Guided Forklifts (AGF)
- Autonomous Mobile Robot (AMR)
- Agriculture machine, access control

ENCODER



ENC



Encoder standard industrial line, very effective about price/ performance ratio, high resolution and accuracy. Available with integrated Fieldbus interfaces, offering the highest resolution and accuracy for precision motion control and length measurement.





- AMT series multiturn absolute serie
- AST series absolute single turn series
- ENC41 low cost and effective incremental series
- ENC58 easy motion control incremental series
- OEK-4 easy belt motion control
- IEP58 programmable encoder series
- MW metric wheels up to 500 mm / 10000 PPR = 0.05 mm per pulse
- Motion control
- · Position and lenght measurement

SALES OFFICES

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