PRODUCT GUIDE

>Sensors

◆DATALOGIC

THE VISION IS YOURS
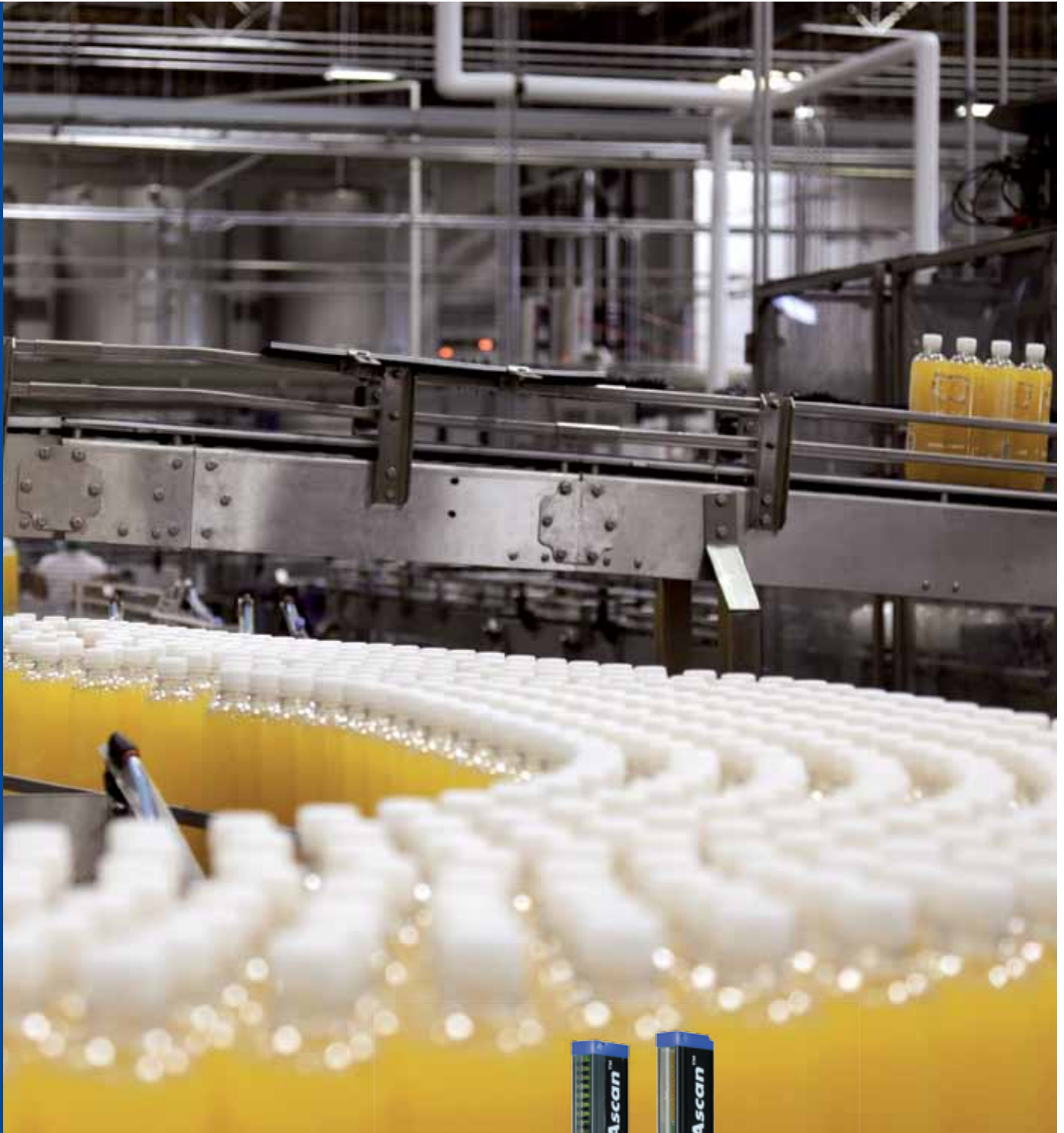
SENSORS & SAFETY

Datalogic has more than 40 years of experience in the sensors and safety sector, developing their first product, a **Photoelectric Sensor**, in 1972. Today, Datalogic is one of the largest manufacturers of sensor and safety products worldwide.

Datalogic is the market leader in Italy for photoelectric sensors and safety light curtains, ranking among the **top-10 manufacturers** in Europe by market share*

Datalogic's **Sensors and Safety** portfolio solves customer applications in **Factory Automation**, specializing in Processing and Packaging machinery, and Automated Material Handling Systems related to Manufacturing Industries such as Automotive, Electronics, Pharmaceutical, Food & Beverage, Paper and Printing, Wood-working, Ceramics, Glass, Textiles etc.

* (source: based on VDC 2010 - 2011)

APPLICATIONS

De-Palletizing	Storage & Retrieval
Washing	Cartoning
Filling	Wrapping
Capping	Vertical Form Fill & Seal
Labeling	Processing
Case Packing	
Stretch-wrapping	
Palletizing	

Tubular, Miniature and Fiber Optic sensors for object detection

Inductive proximity sensors

Fork sensors for label detection

DE-PALLETIZING WASHING FILLING CAPPING
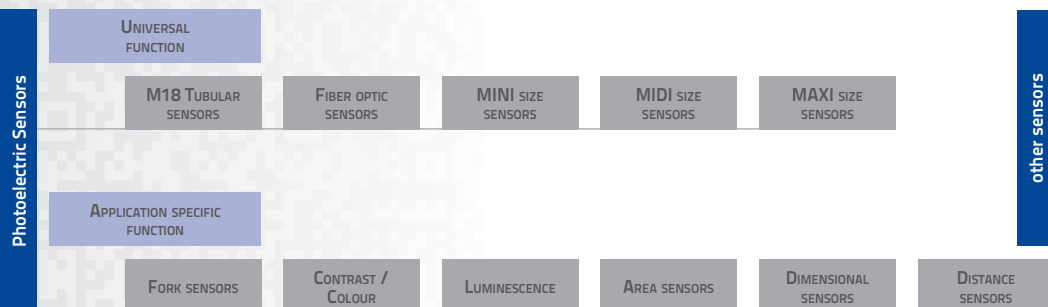
PROCESSING

VERTICAL FORM FILL & SEAL
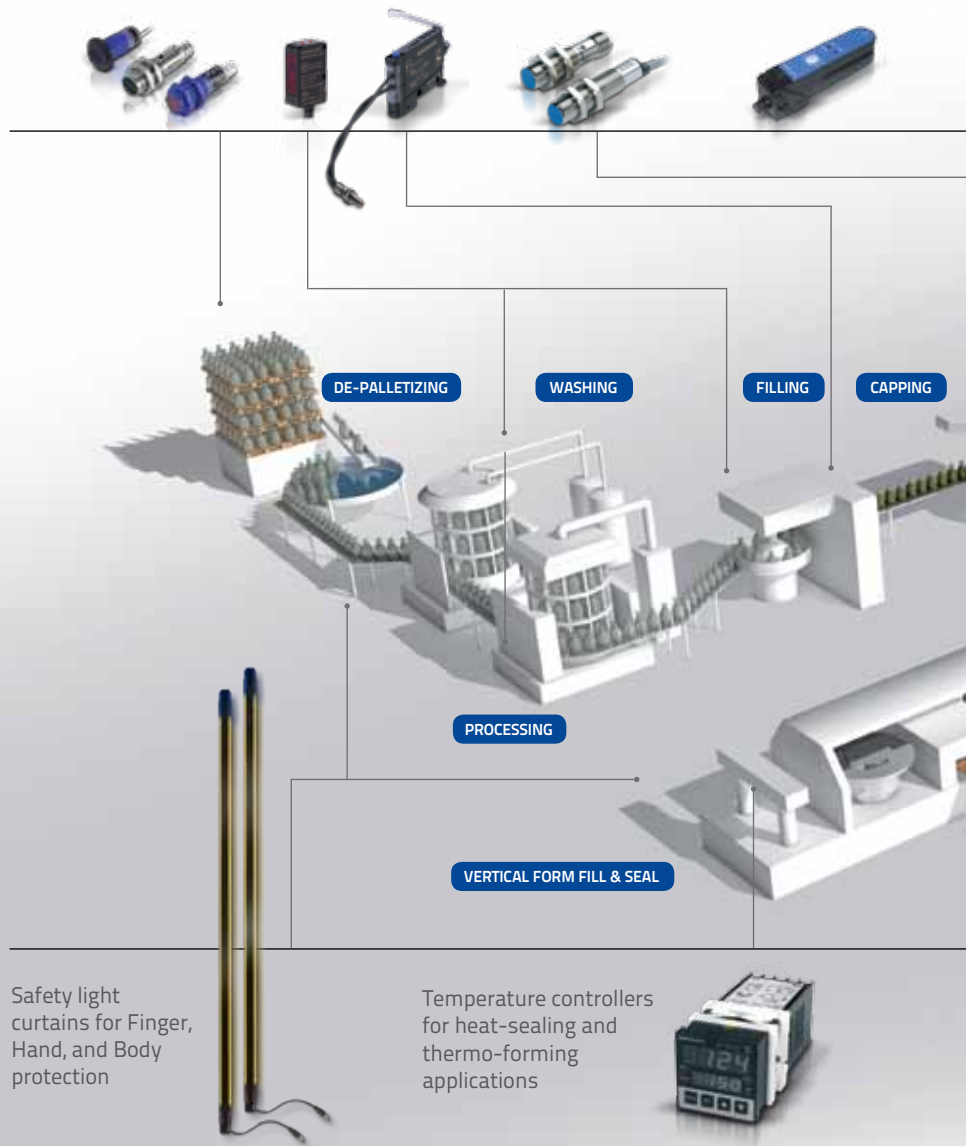
Safety light curtains for Finger, Hand, and Body protection

Temperature controllers for heat-sealing and thermo-forming applications

SENSOR PRODUCTS

SENSORS PRODUCT RANGE

Photoelectric Sensors

UNIVERSAL FUNCTION				
M18 TUBULAR SENSORS	FIBER OPTIC SENSORS	MINI SIZE SENSORS	MIDI SIZE SENSORS	MAXI SIZE SENSORS

APPLICATION SPECIFIC FUNCTION

FORK SENSORS	CONTRAST / COLOUR	LUMINESCENCE	AREA SENSORS	DIMENSIONAL SENSORS	DISTANCE SENSORS

other sensors

Inductive
Ultrasonic
Capacitive
Temperature

Contrast and
Luminescence sensors

Area
sensors

Maxi and Compact sensors for object detection

STRETCH-WRAPPING

CASE PACKING

PALLETIZING

STORAGE & RETRIEVAL

LABELING

WRAPPING

CARTONING
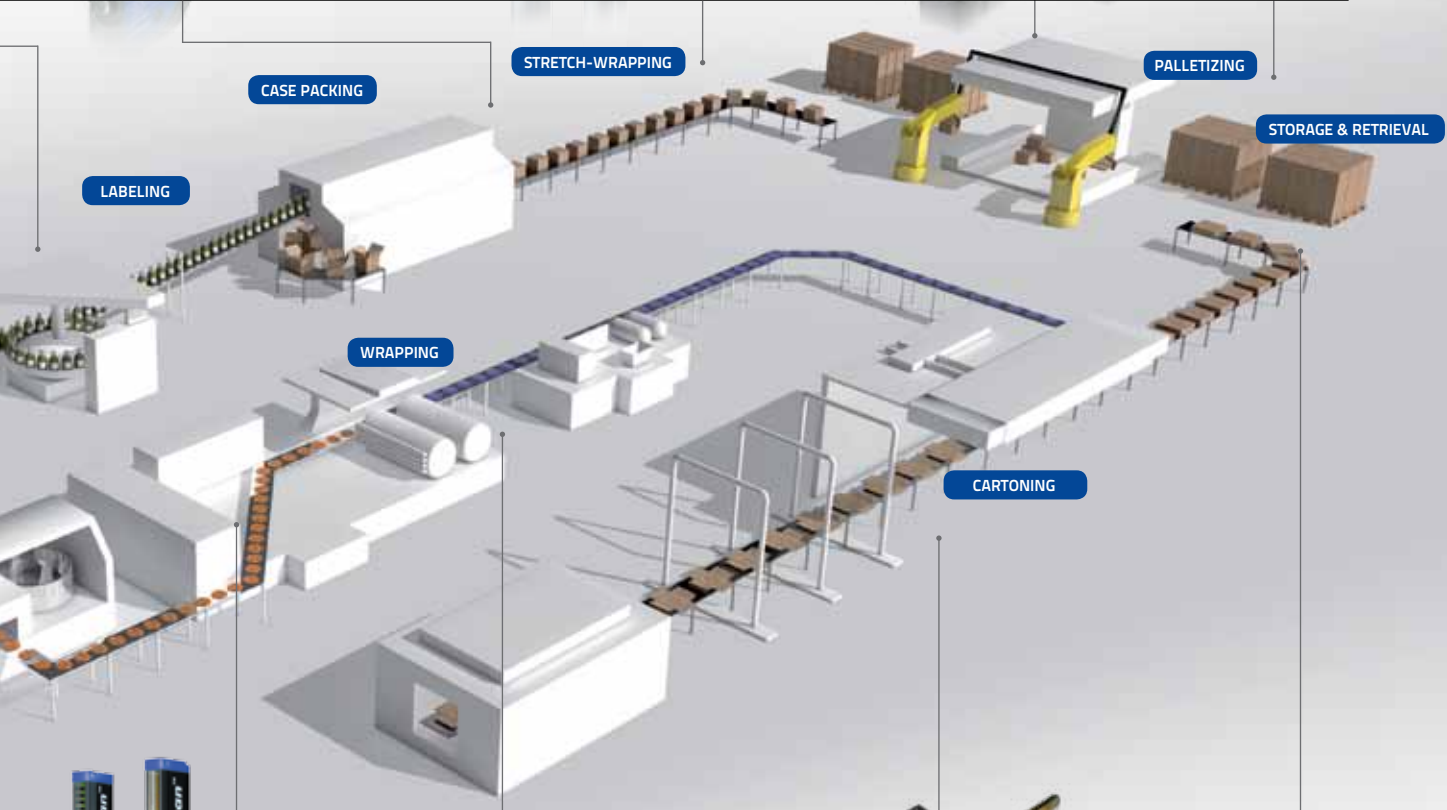
Dimensional sensors
for height/width
measurement and
object positioning

TOF distance sensors for
measurement and object
positioning

Safety light curtains for
body protection with
Muting function

SAFETY PRODUCTS

SAFETY PRODUCT RANGE	Safety Light Curtains Type 2 and Type 4	HIGH / LOW RESOLUTION						other safety products	Controller
		FINGER PROTECTION	HAND PROTECTION	BODY PROTECTION	PRESENCE CONTROL				Light beam
									Module
									Relay unit
		BASE / EXTENDED FUNCTIONALITIES							Accessories
		AUTO / MAN RESTART	EXT DEVICE MONITORING	MUTING	OVERRIDE	BLANKING	CASCADABLE		

Subminiature sensors
SM-ALL

The smallest photoelectric sensor with all universal optic functions
Detection of hard to reach objects or in small spaces

TECHNICAL DATA

- Fixed focus proximity 15, 20, 30, 50cm
- Retroreflex 1.5 m and Polarised 1 m
- Through-beam 2 m
- NPN or PNP version with NO-NC outputs
- 4 wires connection with 2m Cable
- IP67 Plastic subminiature case

APPLICATIONS

- Processing and Packaging machinery
- Electronics assembling
- Small appliance and vending machines

Miniature sensors
S3Z

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

TECHNICAL DATA

- Diffuse proximity 15 or 70cm
- Background suppression Red LED or Laser 50-300mm
- Polarised RRX 4 m, Coaxial for Trasp. 2m, Laser 10 m
- Through-beam 15 m and Laser 30 m
- 3 wire connection with 2m Cable or M8 connector
- IP67 Plastic miniature case
- M3 threaded holes on the front side

APPLICATIONS

- Processing and Packaging machinery
- Electronics assembling
- Small machinery and access control

Miniature sensors
S45

High performance sensor with teach-in regulation and rugged plastic housing IP69K and Ecolab tested. All-in-one sensor family with LED and Laser emission for easy mounting and installing

TECHNICAL DATA

- RED and Laser emissions
- Precise risk free laser class 1 emission
- Diffused LED proximity 800mm
- Background Suppression 400mm
- Retroreflective Laser 15m / LED 7m
- Through beam Laser 20m / LED 15m
- IP69K housing
- 2m Cable or M8 4 connector version
- PNP or NPN output with remote teach-in input

APPLICATIONS

- Processing and Packaging machinery
- Cosmetic and Pharmaceutical industry
- Electronics assembling
- Conveyor lines, material handling

Fork sensors
SR21/SR23

High-resolution, very fast response time
Execution of precise positioning, applying and printing of labels, even when integrated in fast machinery and processes

TECHNICAL DATA

- Slot width 2mm or 5mm and depth 50mm 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

APPLICATIONS

- Packaging and labeling machinery
- Print and apply systems

Fork sensors
SRX3

High resolution, fast response time
Execution of precise positioning, applying and printing of labels, even with any type/format of labels and bearer tapes, transparent on transparent and metallic ink

TECHNICAL DATA

- Dynamic or static teach models
- Slot size 3mm
- High resolution up to 2mm label gap
- M8 connector with PNP or NPN output
- M12 connector with PNP/NPN output and external teach-in
- Rugged and sturdy aluminium housing

APPLICATIONS

- Detection of transparent, opaque labels, metallic ink label.
- Double sheet detection
- Adhesive surface detection

Contrast sensors
TL46

High resolution, White, Red or RGB emission, very fast response time
Performs precisely in packaging machinery and synchronization based mark detection, even when used in extremely fast processes

TECHNICAL DATA

- Operating distance 6-12mm (80mm with acc. lens)
- Bright light emission with Red, White, or RGB LED
- Mark/Background automatic, manual and dynamic setting
- Trimmer or Teach-in setting with 4 digit display version
- Very fast switching frequency 15, 20, 25 or 30 kHz
- Configurable NPN/PNP and 0-5 V analogue output
- Standard metal case with IP67 protection and IP69K (S45W)

APPLICATIONS

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

Miniature sensors
S100

Universal Miniature Photoelectric Sensor
Cost saving: best price on the market
Space saving: standard miniature dimension and universal mounting
Time saving: quick and easy mechanical and electrical installation

TECHNICAL DATA

- Through beam 12m
- Retroreflective 7m
- Polarized retroreflective 3m and 5,5m
- Diffuse proximity 30 and 50cm
- Fixed focus 70mm
- Background suppression 100mm
- NPN or PNP output with L/D input
- 2m cable or M8 connector version
- IP67 plastic miniature case
- M3x4 slotted holes on the back side
- M3 threaded holes on the front side

APPLICATIONS

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

Compact sensors
S8

Extremely high performance
Solves difficult detection applications
(i.e. target objects that are too small, too fast, too clear, too shiny)

TECHNICAL DATA

- Background suppression 50-300mm, Laser 20-200mm
- Background suppression for transparent objects with reflective background
- Polarised retroreflective 5m, Laser 10m, Coaxial for transparent objects 2m
- RGB Contrast sensor 6-12mm, 25 kHz switch. freq.
- UV Luminescence sensor 10-30mm, 2kHz switch. freq.
- NO-NC outputs with 2m Cable or M8 connector
- IP 67 Plastic case and IP69K stainless steel version
- Ecolab and Diversey certification

APPLICATIONS

- Processing and Packaging machinery
- Food and Beverage Industry
- Cosmetic and Pharmaceutical industry
- Electronics assembling

Compact sensors
S62

50x50 Standard universal sensor with improved performance and pricing
Standardization of the same 50x50mm housing, mounting holes, installation and wiring for all optic functions

TECHNICAL DATA

- Diffuse proximity 90 or 200cm, Laser 90cm
- Background suppression 30, 60, 120, 200cm, Laser 15, 35cm
- 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 24-240Vac/24-60Vdc with Relay output
- 2m cable or M12 rotatable connector

APPLICATIONS

- Processing and packaging machinery
- Conveyor lines, material handling
- Automotive assembly, intra-logistics

Luminescence sensors
LD46

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

TECHNICAL DATA

- High power UV light emission at 375 nm wavelength
- Operating distance 10-20, 20-40, or 30-50mm
- Teach-in setting and manual threshold adjustment
- 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

APPLICATIONS

- Packaging and labeling machinery
- Food, Cosmetic and Pharma industries
- Ceramic tiles selection and sorting
- Wood working

Area sensors
AS1/DS1

High resolution area sensor
Detection and measurement of small objects crossing the area, even in a random positions

TECHNICAL DATA

- AS1 Area Sensor for small object detection
- DS1 Light Array for small object measurement
- Minimum object detection Ø 6mm or flat 0.2x75mm
- Minimum measurement resolution 7mm or 4mm
- Heights ranging from 100mm (16 beams) to 300mm (48 beams)
- Standard distance 2m and Long distance up to 4m
- PNP switching output and 0-10 V analog output

APPLICATIONS

- Processing and Packaging machinery
- Food, Cosmetic and Pharma industries
- Electronics and mechanical assembly
- Conveyor lines and sorting systems

Dimensional sensors
DS2

Dimensional sensor with extended controlled heights
Set controls based on height or width measurement and object positioning

TECHNICAL DATA

- Measurement light array with IR parallel beams
- Controlled heights from 150 to 2400mm (n x 150mm)
- Standard resolution 25mm, high resolution 6mm
- Standard distance 5 m and Long distance 10m
- PNP switching output with configurable function
- 0-10 V analog output with configurable function
- RS-485 or Ethernet port and Graphic User Interface

APPLICATIONS

- Secondary Packaging eg. cartons
- Automated vertical warehouses
- Automotive assembly eg. paint shop
- Non-LFT measurement in logistics

Distance sensors

S85

Long distance sensor based on TOF
Accurate controls based on a target object distance and improved cost saving

TECHNICAL DATA

- Time Of Flight (TOF) sensor with Red Laser emission
- Detection and measurement range up to 10 or 20m
- 1mm resolution/repeatability and 7mm accuracy
- 4-20mA or 0-10V scalable analog output and 2 push-pull digital outputs
- RS485 serial interface
- Built-in graphic display and push buttons
- Standard M12 8-poles connector
- IP67 compact metal housing

APPLICATIONS

- Packaging end of line
- Paper reel unwinding control
- Automated warehousing
- Trans-elevator and crane positioning
- Automotive assembling lines
- Non-LFT measurement in logistics

Fiber Optic Amplifiers

S7/S70

High resolution, fiber optic sensor detection of small objects through fiber optic cable, even in confined spaces and high temperature environments. Sensor can be installed at distance far from detection object

TECHNICAL DATA

- Diffuse fiber optics up to 500mm
- Through beam fiber optics up to 1800mm
- Red or White LED emission for contrast detection
- Double 4-digit display
- 4-digit display and teach-in or trimmer setting
- 10 bits (1024 points) or 12 bits (4096 points) resolution
- Switching Freq. 1kHz, Fast 5kHz, Ultra-fast 10kHz and 50kHz
- NPN or PNP output with 2m cable or M8 connector
- I/O link connection

APPLICATIONS

- Processing and Packaging machinery
- Electronics assembly
- Pharmaceutical industry

Maxi sensors

S300-PA/PR

Heavy duty, multi-voltage sensors with terminal block and internal relay Durability for integration in outdoor applications and harsh environments

TECHNICAL DATA

- 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

APPLICATIONS

- End-of-line packaging, palletizers
- Outdoor or indoor gates control
- Manufacturing plants

M18 tubular sensors

S15

Short barrel and IP69K protection plastic or stainless steel case
Space and cost saving, performs in harsh environments including in water-jets and aggressive cleaning agents

TECHNICAL DATA

- Diffuse proximity 10, 35, or 100cm, fix focus 5cm
- Background suppression 40-120mm
- Retroreflex 5 m, Polarised 4m, for Trasparent 1m
- Through beam 20m
- L/D input, 2m Cable, M12 connector, or pig-tail vers.
- IP69K Plastic or Stainless steel case
- Johnson Diversey certification for industrial detergents

APPLICATIONS

- Processing and Packaging machinery
- Assembly and conveyor lines

M18 tubular sensors

S50/S51

Standardization of the same M18 housing with mounting holes, installation and wiring for all optic functions. Further cost saving with S51 basic line

TECHNICAL DATA

- Diffuse proximity 10, 40, or 70cm, and Laser 35cm
- Fix-focus 100mm and Background suppr. 50-100mm
- Polarised RRX 4m, Laser 16 m, for Trasparent 1m
- Through-beam 20m and Laser 60m
- Contrast sensor 10mm, Luminescence sensor 20mm
- 2m Cable or M12 connector with NO-NC outputs
- Axial or Radial optics, Plastic flat or Metal M18 case

APPLICATIONS

- Processing and Packaging machinery
- Assembly and conveyor lines
- Automatic material handling
- Automated warehousing

Incremental encoders

ENC41/ENC58

Versatile and flexible incremental encoders with compact and standard dimensions.
Hollow or solid shaft and universal output circuit

TECHNICAL DATA

- Plastic or aluminium housing Ø41mm and Ø58mm
- Hollow or solid shaft
- Resolution from 1 to 10000 PPR
- 1.5m cable connection
- AB0/AB0 output signals
- Smart Push-Pull & Line-Drive output
- Power supply 5 – 30 Vdc

APPLICATIONS

- Working and assembly lines
- Packaging machinery
- Light conveyors

Programmable incremental encoders

IEP58

Programmable incremental encoder reduces storage cost and downtime with to customer specific programming.

TECHNICAL DATA

- Standard housing Ø 58mm
- Resolution from 1 to 16384 PPR
- 1.5m cable connection
- AB0/AB0 output signals
- Smart Push-Pull & Line-Drive output
- Power supply 5 – 30 Vdc

APPLICATIONS

- Automated machinery
- Conveyor lines

Absolute encoders

AST58/AMT58

Compact optical single and multi-turn encoder
Extremely high accuracy
Serial interface SSI up to 25 bit
Modular fieldbus ProfiBus, Profinet; EtherCat, DeviceNet, CanOpen up to 30 bit.

TECHNICAL DATA

- Aluminium anticorodal metal case Ø58mm
- Solid shaft Ø6 or 10mm, hollow shaft Ø15mm
- M12, M23, or 1.5m cable connection
- Power supply 7.5 – 34 Vdc

APPLICATIONS

- Motion control
- Automated machinery
- Length measurement/positioning

Ultrasonic sensor

US

Distance measurement
Accurate positioning or distance control, immune to object color or light reflection

TECHNICAL DATA

- Square miniature or M18 background suppression with range 5 - 50cm and through beam up to 60cm
- M30 with range 0.2 - 2 m and min object 10mm
- M50 with range 0.2 - 8 m and min object 20mm
- Teach-in push-button and remote teach input
- NPN and PNP switching outputs for object detection
- 0-10 V or 4 – 20 mA analog out for distance measure
- High resolution to 1mm or 0.1% of distance range

APPLICATIONS

- Packaging machinery
- Beverage and bottling plants
- Paper reel unwinding control

Inductive proximity

IS

Non-contact detection
Cost effective and reliable detection of any metal part

TECHNICAL DATA

- Standard proximity M4, M5, M8, M12, M18, M30
- Double range (i.e. M12 4mm, M18 14mm, M30 20mm)
- Unshielded or shielded models for flush mounting
- Nickel brass or stainless steel short and long housing
- Ecolab and Diversey certification for industrial detergents
- Multi-voltage, Metal face, Weld field immune models
- NO/NC, NPN or PNP output and programmable versions.

APPLICATIONS

- Processing and Packaging machinery
- Assembling and conveyor lines
- Metal working and machine tools
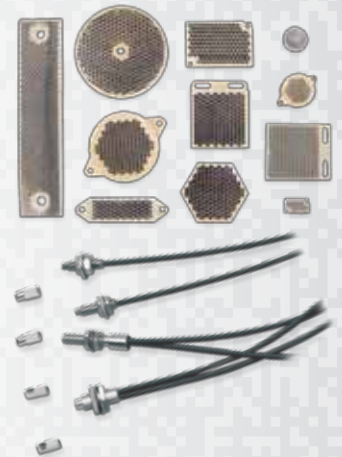
- High efficiency reflectors for longer operating distance
- Micro-prismatic reflectors for high resolution detection
- High temperature, Extra-flexible, High efficiency fibers
- Fiber optics light array, Fiber units with focusing lens
- Cables with axial or right angle M8 or M12 connectors
- Plastic support and metal bracket for sensor mounting

HEADQUARTERS

Datalogic Automation Srl
Via Lavino, 265
40050 Monte San Pietro - Bologna - Italy
Tel: +39 051/6765611
info.automation.it@datalogic.com

BRANCHES AND SALES OFFICES

EUROPE
BENELUX
Datalogic Automation Benelux
Newtonweg 3
4104 BK Culemborg - The Netherlands
Tel. +31 345/589489
info.automation.nl@datalogic.com

FRANCE
Datalogic Automation Srl
Succursale en France
Le Parc Technologique de Lyon
333 cours du 3ème Millénaire - Le Pôle
69800 Saint Priest
Tél. +33 (0)4/72476180
info.automation.fr@datalogic.com

GERMANY
Datalogic Automation Srl
Niederlassung Central Europe
Gottlieb-Stoll-Straße 1,
73271 Holzmaden
Tel. +49 7023 7453-100
info.automation.de@datalogic.com

ITALY
Datalogic Automation Italy
Via Lavino, 265
40050 Monte San Pietro - Bologna
Tel. +39 051/6765611
info.automation.it@datalogic.com

Via Taormina 1
20093 – Cologno Monzese (MI) Italy
Tel. +39 02 25151211
info.automation.it@datalogic.com

Via Le Gorrey, 10 11020, Donnas - Aosta
Tel. +39-0125-8128201
info.automation.it@datalogic.com

SPAIN
Datalogic Automation Iberia
Sucursal en España
C/ Frederic Mompou 4 esc A, 4° puerta 3ª
08960 Sant Just Desvern - Barcelona
Tel. +34 (0)93/4772059

NORDIC
Datalogic Automation AB
Höjdrodergatan 21
21239 Malmö - Sweden
Tel. +46 (0)40/385000
info.automation.se@datalogic.com

UNITED KINGDOM
Datalogic Automation UK
Datalogic House
Dunstable Road, Redbourn - Herfordshire
AL3 7PR
Tel. +44 (0) 1582 791750
info.automation.uk@datalogic.com

TURKEY
Datalogic ADC Turkey
Merkezi Italya Istanbul Merkez Şubesi Süleyman
Seba Cad. No:48 BJK Plaza A. Blok Kat:4 D.44
34357 - Istanbul - Turkey
Tel. +90 212 396 1550
info.adc.tr@datalogic.com

NORTH AMERICA
Datalogic Automation Inc
511 School House Road
Telford, PA 18969-1196 - United States
Tel. +1–800–BAR–CODE or +1–215–723–0981
info.automation.us@datalogic.com

Datalogic Automation Inc
MACHINE VISION
5775 W Old Shakopee Rd
STE 160, Bloomington, MN 55437
United States
Tel. +1–952–996–9500
info.automation.us@datalogic.com

SOUTH AMERICA
Datalogic Brazil
Avenida Olivio Roncoletta, 465
Bairro Vila Hortolandia Jundiaì (SP), Brazil
Tel. +55 11 29232600
info.automation.br@datalogic.com

APAC
Australia-New Zealand
Datalogic Automation Pty Ltd
Unit 130, 45 Gilby Road
Mt Waverley - Victoria, 3149 - Australia
Tel. +61 (0)3/95589299
info.automation.au@datalogic.com

CHINA
Datalogic Automation Asia
2nd Floor,10 Building, Dayuan Industrial Zone,
No.1,Pingshan 1st Road,
Liuxuan Blvd.Xili, Nanshan District,
518054,Shenzhen,China
Tel:+86 (0)755-8629 6779
info.automation.cn@datalogic.com

Suite 1301, Hua Rong Plaza,
1289 South Pudong Road, Pudong District
Shanghai 200120
Tel:+86 (0)21-5836 6692
info.automation.cn@datalogic.com

Floor 20, Room 2019, Building 2,
16 West Nan San Huan Road
Fengtai District, Beijing
Tel:+86 (0)10-8757 6375
info.automation.cn@datalogic.com

1202, Excellence Build, 128 Yanji Road,
Shibei District, Qingdao, China
Tel:+86 (0)532 55787889

JAPAN
Idec Auto-Id Solutions Corporation
8-10, Shioe 5-chome, Amagasaki Hyogo,
Japan 661-0976
Tel. +81-6-7711-8880
www.idec.com

Rev. 01, 03/2016

9C514800E

DATALOGIC
THE VISION IS YOURS

www.datalogic.com