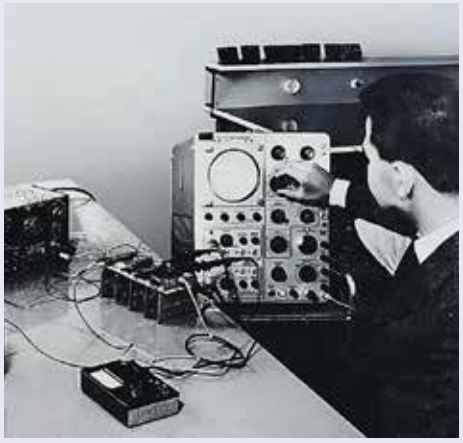
AUTOMOTIVE

Solution Guide

DATALOGIC
EMPOWER YOUR VISION

DATALOGIC:
A BUSINESS BUILT ON INNOVATION



We use barcodes on a daily basis, in dozens of activities: sending a package or a certified letter; putting our luggage on the conveyor belt of an airport; making a purchase in a shop, in a pharmacy or in a supermarket; when we go for a blood test or if we are hospitalized. The use of barcodes is also widespread in major factory production processes: from the warehouse to production, to the movement of goods, along the entire value chain.

Datalogic began its entrepreneurial adventure in 1972, when **Dr. Romano Volta** started developing and producing optical-electronic control appliances for the packaging, textile and ceramics sectors. Romano Volta sensed the revolutionary scope of the bar code and started developing a manual reader able to read it, combining electronics, mechanics, optics and information technology.
In 1974 Datalogic brought this technology into the Retail world, in a supermarket in Troy, Ohio and then applied it to the whole industrial world, giving life to the only true Bar Code Company at a global level.

Today, Datalogic is a global leader in the automatic data capture and process automation markets, specialized in the designing and production of: bar code readers; mobile computers; sensors for detection, measurement and safety; RFID, vision and laser marking systems. Datalogic solutions help to increase the efficiency and quality of processes in the Retail, Manufacturing, Transportation & Logistics and Healthcare industries, along the entire value chain. The world's leading players in the four reference industries use Datalogic products, certain of the attention to the customer and of the quality of the products that the Group has been offering for over 47 years.

Datalogic Group, headquartered in Bologna (Italy), employs approximately 3,200 staff worldwide, distributed in 28 countries, with manufacturing and repair facilities in the USA, Brazil, Italy, Slovakia, Hungary, Vietnam, China and Australia. Datalogic has 11 R&D centers in Italy, Germany, USA, China and Vietnam, with an asset of more than 1.200 patents in multiple jurisdictions, and invests almost 10% of its revenues in R&D, to be better positioned to compete in the worldwide marketplace.
Datalogic S.p.A. is listed in the STAR segment of the Italian Stock Exchange since 2001 as DAL.MI.
More information about Datalogic at ***www.datalogic.com*** .

DATALOGIC PROFESSIONAL SERVICES

DATALOGIC PROFESSIONAL SERVICE PROGRAMS THAT MEET EVERY NEED

Whatever your service need, Datalogic can help. Our technicians average over 13 years of experience spanning multiple device generations—and their knowledge stays fresh through continuous training. Explore all of our Service offerings with your Datalogic Authorized Reseller to find the programs that best meet your needs and keep your Datalogic solution working at peak efficiency throughout its lifecycle.

EASEOF**BUILD** - Personalized solution design and installation

We work with you to design installations that fit your workflow and timing. Datalogic-trained technicians carefully install, configure and commission your solution to ensure optimum performance, backed up by a component onsite warranty covering any startup issues.

EASEOF**CARE** - Extended service that fits your budget

Your business is not one-size-fits-all, and neither are our equipment service plans. EASEOFCARE extended repair is flexible, customizable and responsive. Four convenient subscriptions that cover needs from overnight replacement to five-day repair. Unique requirements?
Let's talk—we can help with staged spares, wear-parts forwarding, and other solutions to keep your mission-critical operations working as hard as you.

EASEOF**SUPPORT** - Technical support options that fit your needs

Get help fast with our 24/7, "follow-the-sun" phone support programs. Datalogic can tailor service-level agreements to your specific needs with worldwide coverage, and add-ons including technician dispatch should an issue require on-site assistance.

EASEOF**PM** ***(Preventative Maintenance)*** - Keep equipment in top shape

Keep your equipment in top operating condition with onsite preventative maintenance. PM service not only increases equipment life but ensures peak efficiency and lowest cost.

EASEOF**TRAIN** - Maximized benefit through continued training

Our customizable training programs help your operators and onsite IT and maintenance staff get the most out of your Datalogic solutions.
We offer a range of training opportunities at our facilities, at regional training events, or online.

EASEOF**DEV** - Customized development and application management

Make your Datalogic solution work its hardest with our custom integration and development services. Experienced engineers customize your solution, integrating components from different vendors to meet your specific needs, so your solution performs exactly the way you envision.

DATALOGIC FOR INDUSTRY 4.0

"Unique portfolio provider of smart, interconnected devices able to protect, identify, sense, check and mark. We're focused on Automotive, Electronics, Packaging and General Manufacturing customers in the Industrial Production world"

MANUFACTURING

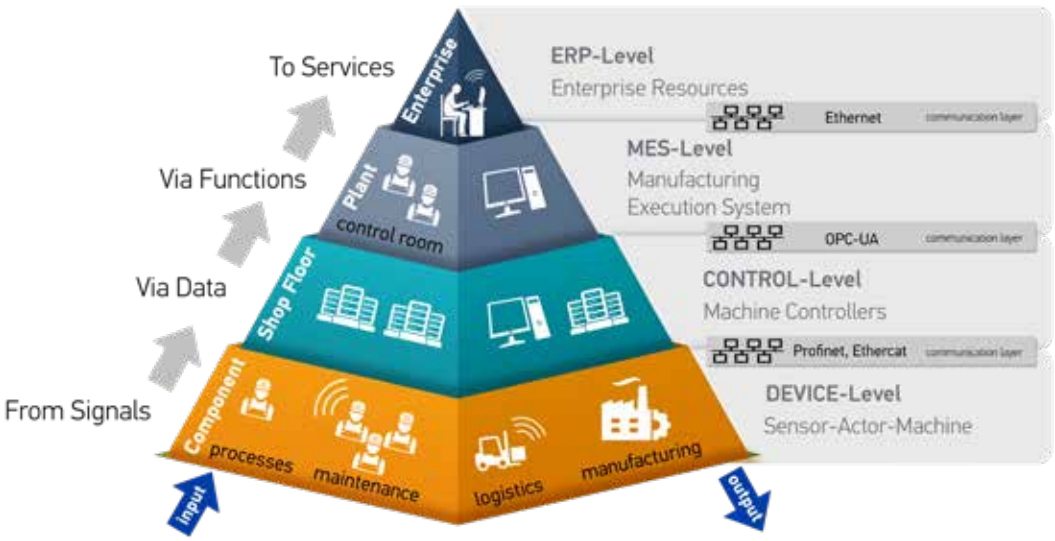
TECHNOLOGIES FOR DATA GENERATION...

The technologies used to generate data by Datalogic can be divided into five categories. They depend on the type and function of the product data or production process: marking (Laser Markers), scanning (Bar Code Readers and Vision Systems), writing and reading (Readers and RFID tags), object and physical feature scanning (Photoelectric Sensors, Smart Cameras and Vision Systems).

...AND AUTOMATION ENABLING

Datalogic products also detect and locate parts during the manufacturing process enabling robot guidance and full automated processes (Sensors, Smart Cameras and Vision Systems). All this process can be safely automatized thanks to solutions for machine safeguarding and robotic cell protection (Safety Barriers and Laser Scanners).

In all these cases the Datalogic components are perfectly integrated within the systems described by Industry 4.0 through interfaces and standard Industrial Ethernet protocols. In accordance with another Industry 4.0 requirement, Datalogic solutions include smart functions for communication, self-configuration and self diagnostics.



AUTOMOTIVE SMART MANUFACTURING

SENSORS ENABLING INDUSTRY 4.0

Driven by Industry 4.0, Automotive production is aiming to highly flexible workflows, maximum productivity and efficiency.
Sensors and Safety devices in a smart factory are the key enabler that will help to realize the biggest benefits of this revolution.
Sensors can provide continuous status updates which can then be compared with a "digital twin" – a simulation of the system that runs at 100% efficiency. Through this, deviations can be quickly flagged and trends can be more easily identified.
Datalogic provides a complete Sensor Portfolio that is perfectly fit to provide these state-of-the-art solutions for detection and inspection on any automated product line.

AUTOMOTIVE FULL DPM TRACEABILITY

In production and assembly of automotive components, an application of the smart factory is the Laser Marking of 2D Datamatrix bar codes directly onto mechanical parts such as pistons, bearings, gears and other components. Datamatrix codes include all information about the item and production process; there is no need for any additional label or tag.
In this way the mechanical component is able to introduce itself for manufacturing purposes, stating where it comes from, what needs to be done and where it has to go once the process has been completed. This data is read and sent through an integrated Vision System, a Smart Camera or a 2D Bar code Imager. This information can then be used, also in logistics, to store and even manage spare parts.

MARK&READ COMPLETE SOLUTION

Datalogic presents a full traceability solution for automotive parts.
Datalogic P-Series Smart Cameras locate the position/orientation of a part to drive the Laser Marker accordingly. This guarantees a flexible and effective manufacturing method.
Datalogic Laser Markers (Uniq, Arex) provides a high quality marking solution on every surface.
Datalogic 2D imager Matrix Series will then verify the readability of the bar code, while MX-E machine Vision System are able to detect logos and read text strings like serial numbers. All these devices are integrated and connected by main industrial Ethernet Interfaces to communicate data to the plant ERP and MES.

DATALOGIC SOLUTIONS FOR AUTOMOTIVE

SAFETY

Datalogic offers a complete line of type **2 and type 4 safety light curtains** for point protection and access control in dangerous areas, with basic and advanced functions, such as integrated muting, blanking, and cascade. A new **Safety Laser Sentinel** family that provides a solution for safe monitoring of a two-dimensional area including all functions for static, horizontal and vertical, and dynamic applications in a compact device with high level detection performances completes the offer.

GUIDANCE

The IMPACT Software, powering all Datalogic **Machine Vision** devices ranging from **compact smart cameras** to **high-end vision processors**, is the ideal platform to develop Robot or Laser guidance applications. Powerful state-of-the-art pattern matching algorithms combined with advanced camera calibration and data communication functionalities result in quick and seamless application deployment.

MEASUREMENT

A wide range of laser **Time of Flight (TOF)** and **Ultrasonic** technology based sensors, commonly used in level and position control, as well as **measurement light grids**, with different heights and resolutions together with easy and effective programming modality, applied in the precise and accurate detection of the material dimensions during working compose the Datalogic measurement portfolio.

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DETECTION

Datalogic offers a best-in-class comprehensive product portfolio of **sensors** mainly based on light technology. Color or luminescence sensors as well as slot sensor for counting or positioning, background suppression and polarized retro-reflex sensors with LED or LASER emission are some of the solutions available for Automotive applications. Complete the offer a wide range of **inductive sensors** and **rotary encoders**.

INSPECTION

IMPACT Software Suite, with over 120 inspection tools and 50 user interface controls, allows users to create unique inspection programs and develop user interfaces quickly and easily. Feature locating, flaw detection, surface inspection, pattern matching, measurement and color analysis are just few examples of the wide range of tools available to perform an accurate and 24/7 consistent quality inspection of the production thus reducing the non-quality costs and recall rate.

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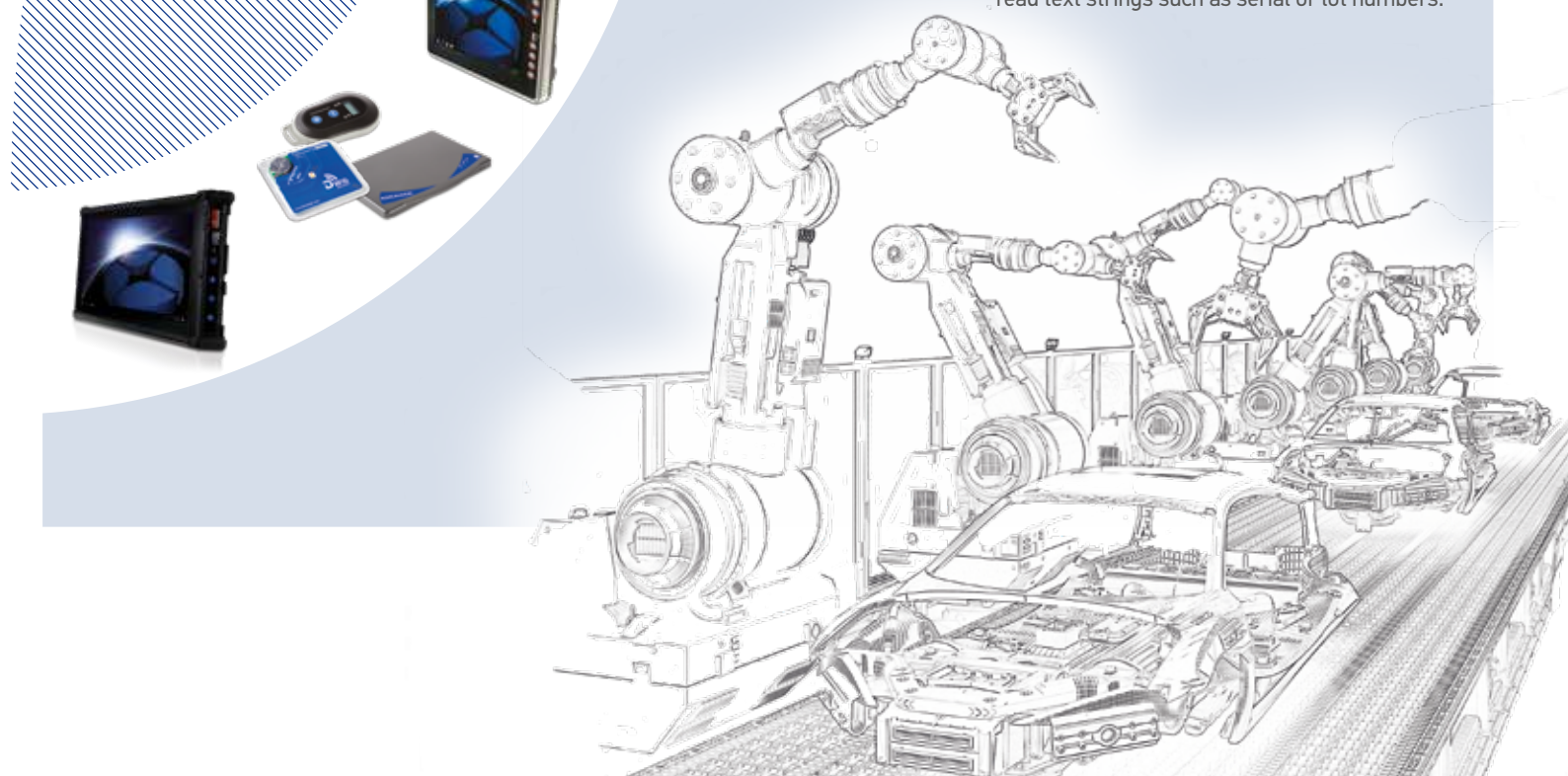
TRACEABILITY

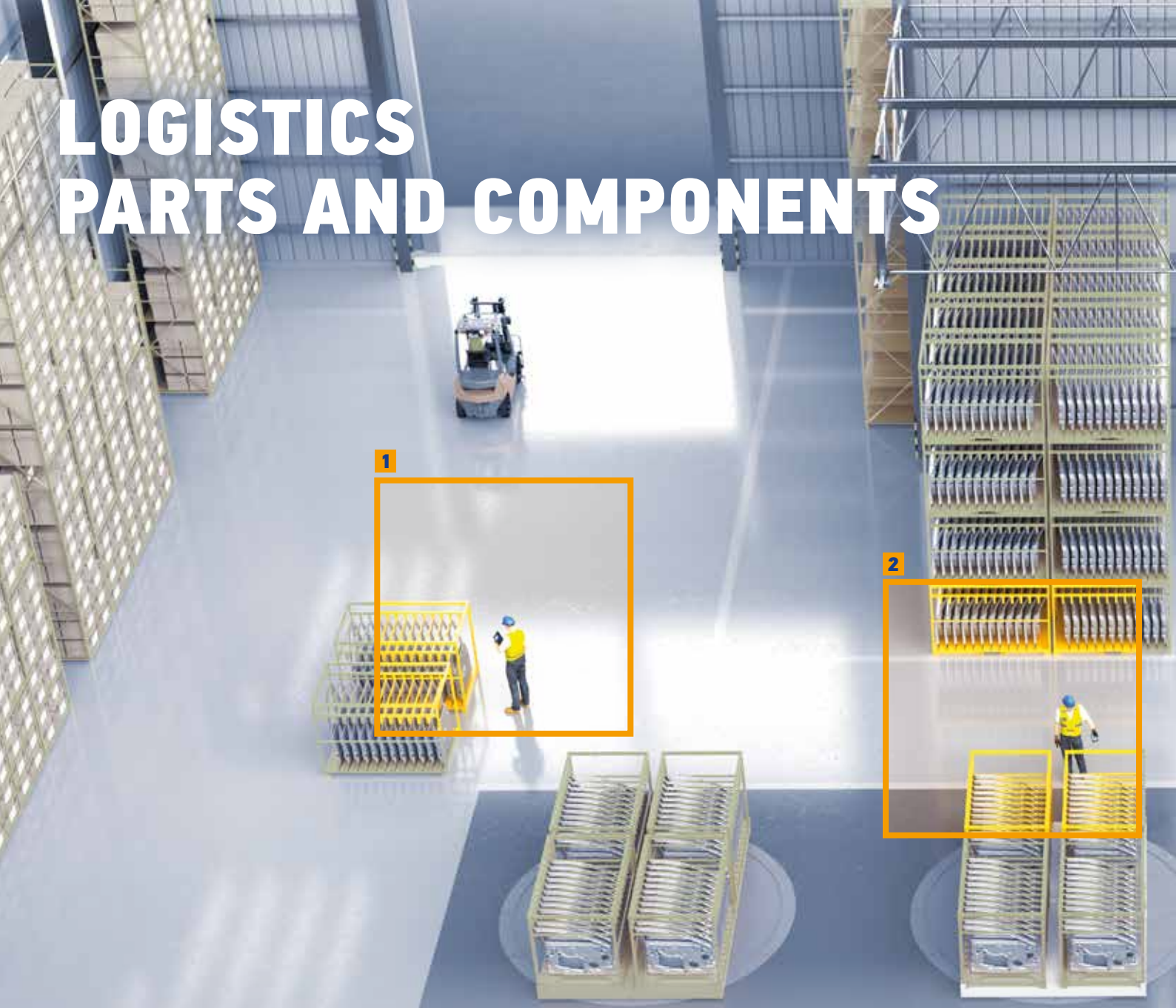
Datalogic offers the most comprehensive portfolio of products and solutions in the marketplace to deploy total traceability systems for components, sub-assemblies and finished goods. Starting from the marking of data directly onto parts (Direct Part Marking - DPM), with a broad range of **laser markers** powered by the three main laser technologies i.e. Fiber, DPSS and CO2 fulfilling every customer need for permanent high quality marking on any material.
Moving to fixed **1D and 2D unattended barcode readers**, based on cutting-edge technologies such as imagers, electronic focus control, powerful lighting systems and equipped with the most recent communication protocols like industrial fieldbus and OPC-UA.
Fixed barcode readers and laser markers can be also combined together through **MARVIS™** (MArk Read Verify Integrated Solution) the software suite allowing laser markers to interact with AutoID code reader seamlessly for in-line validation of marked codes.

The barcode reading product portfolio is then enriched by the widest range of **rugged or general purpose handheld scanners** equipped with powerful state-of-the-art scan engines to tackle even the most challenging applications like DPM or long distance 2D code reading.
The Datalogic cordless handheld readers embed unique technologies like wireless charging, STAR radio proprietary narrow-band for two-way communication and long-lasting batteries to maximize the life of the device and the return of investment.

The barcode reader portfolio is then completed by an extensive range of **mobile computers** ranging from well-established industrial rugged **Portable Data Terminals (PDT)** with physical keyboard to Android™ powered full touch **Portable Digital Assistant (PDA)**. The mobile computer portfolio also includes two other important families: rugged **vehicle mount computers** to provide forklift operators with a sturdy multi-touch interface to the Warehouse Management System and **industrial tablets** with great ergonomics and Gorilla® glass screen enabling a wide range of applications.
Additional opportunities to implement traceability solutions for automotive come from other technologies mastered by Datalogic among which a selection of Ultra High Frequency (UHF) **RFID** devices and **Optical Character Recognition (OCR)** capabilities with smart cameras and vision processors to read text strings such as serial or lot numbers.



LOGISTICS PARTS AND COMPONENTS



1. INVENTORY MANAGEMENT

Inventory management requires periodic verification of the goods stored in different locations. The Taskbook, a rugged tablet with optional handgrip that integrates a 2D imager and a hot swappable battery, represents the most efficient solution for tracking allowing one hand scan on 24/7 basis.

2. INBOUND QUALITY CONTROL

Material receiving results in a variety of activities including part identification, data entering into company ERP system and defective part notification (including visual information). Memor 10 PDA is the ideal operator companion enabling a wide range of different applications exploiting the power and flexibility of Android OS.

3. PICKING ON PRODUCTION LINE

In warehouse operations, workers have to track and report the picked parts in real time. The Falcon X4 mobile computers are the optimal choice for any application requiring reliable data collection in mobility offering maximum performances and ruggedness in an ergonomic design.

4. FORKLIFT SOLUTION

The PowerScan 2D Auto-Range ensures high reading performances of both 1D and 2D codes even at far operating distances. Combined with the SD9030 dongle and the Rhino II vehicle mount computer, it represents a complete solution for forklifts allowing operator to scan items with no need to get off the vehicle.

POWERTRAIN

1. MARK & READ

Combining AREX 400 with Matrix 220, datamatrix code for traceability can be marked and verified at ease.
Enabled by M.A.R.V.I.S software the two devices comply with the most demanding grading standards.
Statistics and images are stored providing valuable insights for quality control and cost reduction.

2. ROBOT GUIDANCE

Robots are widely used in manufacturing processes to ensure high-quality even for tough operations. IMPACT, the Machine Vision software suite powering all Datalogic devices, offers all functionalities to easily deploy robot guidance applications including camera calibration, pattern matching and result communication.

3. QUALITY INSPECTION

The MX-E Vision Processor Series, powered by the IMPACT Software suite with 100+ advanced inspection tools, supports multiple individual cameras, allowing either to inspect complex items like engine blocks leveraging multiple points of view or to deploy several verification points along the manufacturing line.

4. ADHESIVE LAYER VERIFICATION

Quality standards along the production processes require accurate check points of the assembling phases. LD46 luminescence sensor is used to verify if the correct amount of adhesive layer has been applied on the edge of the engine head cylinders.

5. AUTONOMOUS VEHICLE SAFETY

A LASER SENTINEL safety laser scanner can be used to protect the AGV against collision with persons, vehicles and material. The configurable protective and warning fields are activated dynamically according to the speed or curve traveled.

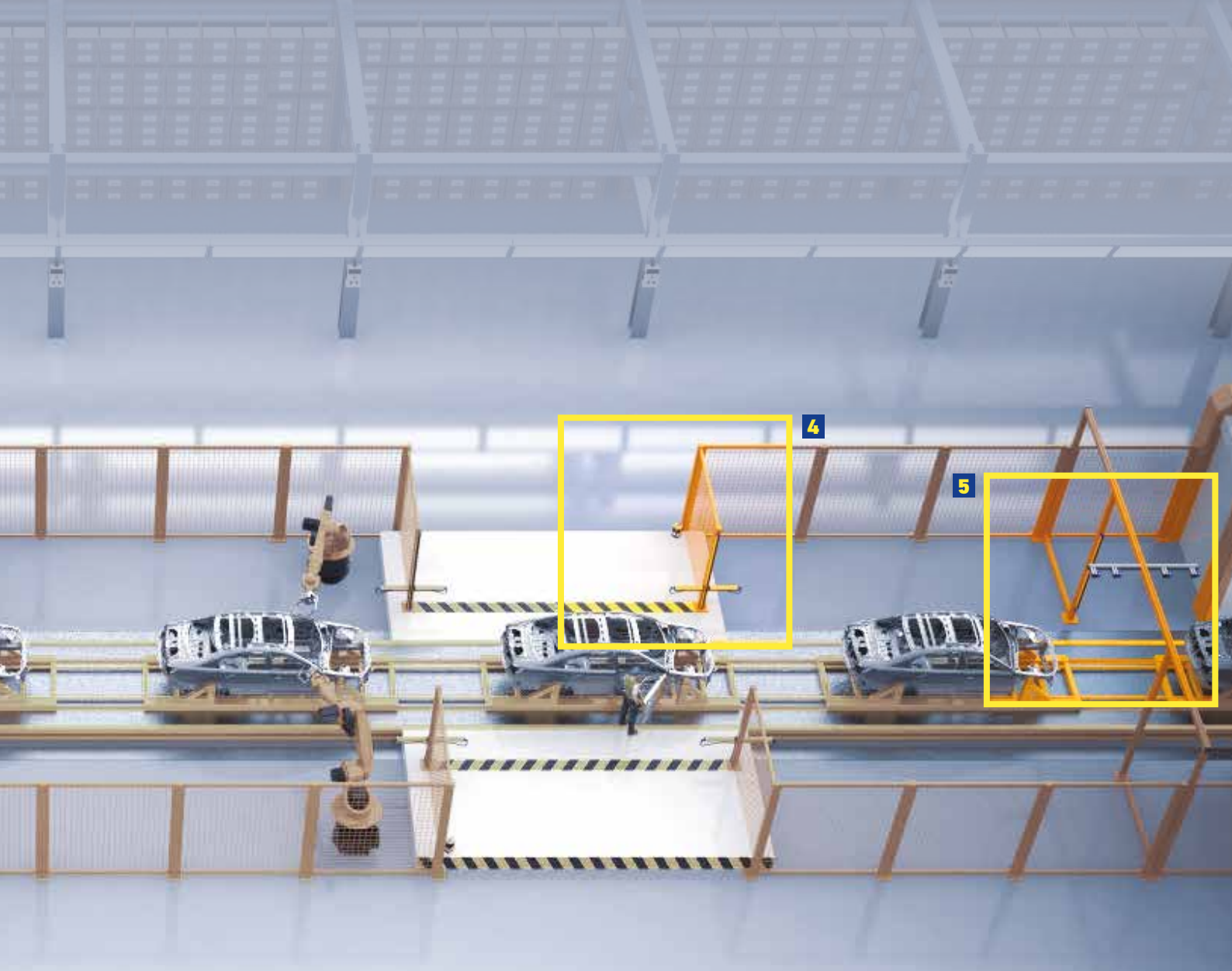
PAINT AND BODY SHOP

1. BODY PARTS ACCESS PROTECTION AT TURNTABLE

The LASER SENTINEL safety laser scanner for area monitoring prevents the start of a dangerous movement when someone is standing behind the light curtain. Automatic restart is possible when the hazardous area is empty.

2. PRESENCE DETECTION BEHIND A LIGHT CURTAIN FOR HAZARDOUS AREA PROTECTION

SG4 EXTENDED safety light curtains are used to separate cells in the paint line.
Basic and Advanced configurations, for example partial muting on different areas, are possible through push buttons or Graphical User Interface.



3. HAZARDOUS AREA PROTECTION ON MATERIAL RACKS

The safety laser scanner can monitor vertical openings through which people could enter into dangerous areas. Checking continuously the position of reference points, LASER SENTINEL guarantees that in case of mechanical changes, the dangerous movement could be stopped.

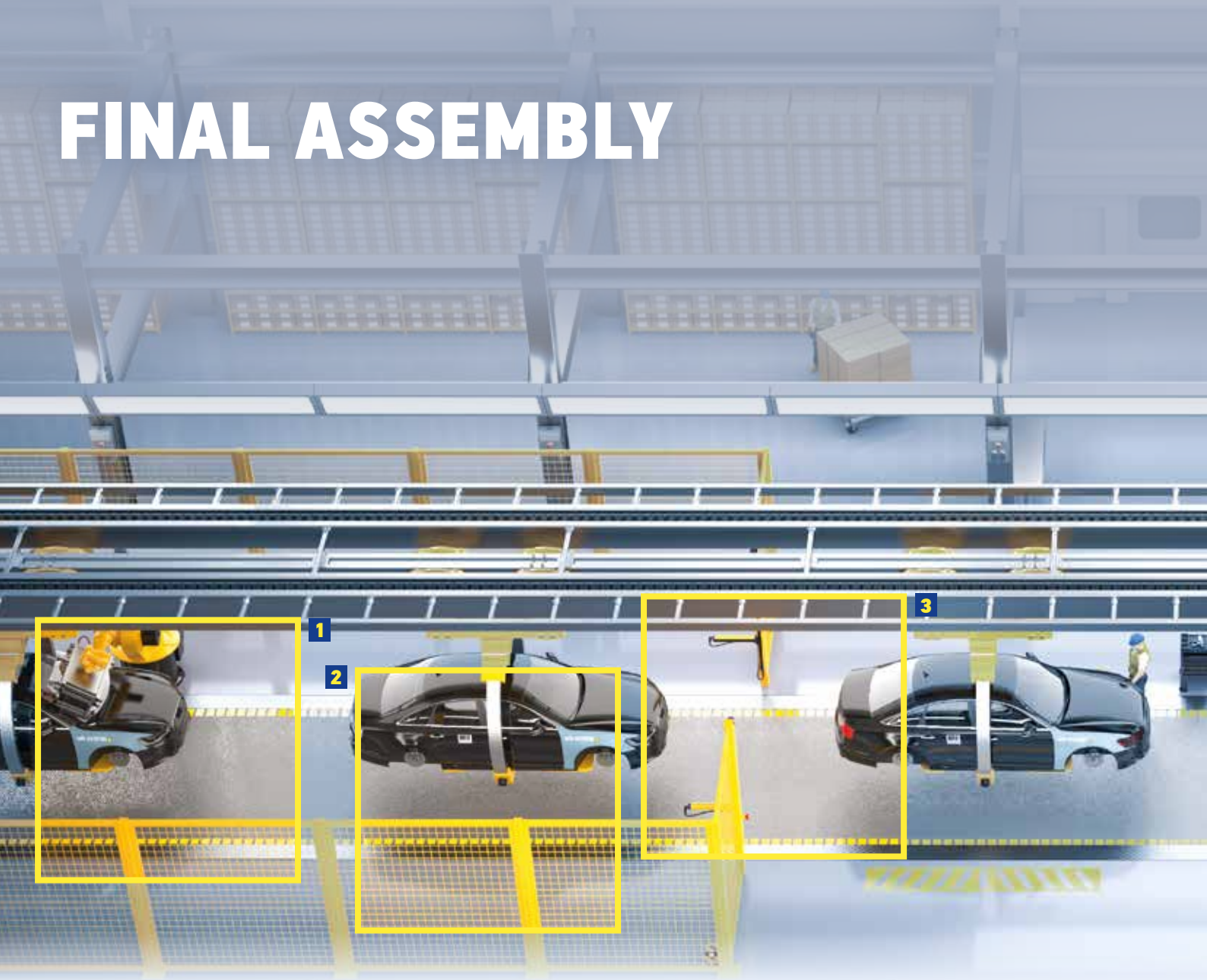
4. HAZARDOUS AREA PROTECTION AT THE REWORKING STATION

Areas around the car body are monitored using LASER SENTINEL safety laser scanner. Thanks to protective field of 5,5m, only two scanners are required for full protection of the work area. By using Master Slave connection, two scanners can be used together with a single point of programming and monitoring, and saving wiring and safety I/Os.

5. ACCESS PROTECTION WITH DIFFERENTIATION BETWEEN PEOPLE AND MATERIAL

In the course of the production process, the bodies are lifted or lowered to different transport levels. The SG4 EXTENDED safety light curtain prevents entry of a person into the hazardous area.
The distinction between people and machine is made using S85-Y muting sensors.

FINAL ASSEMBLY



1. WINDSCREEN ASSEMBLING

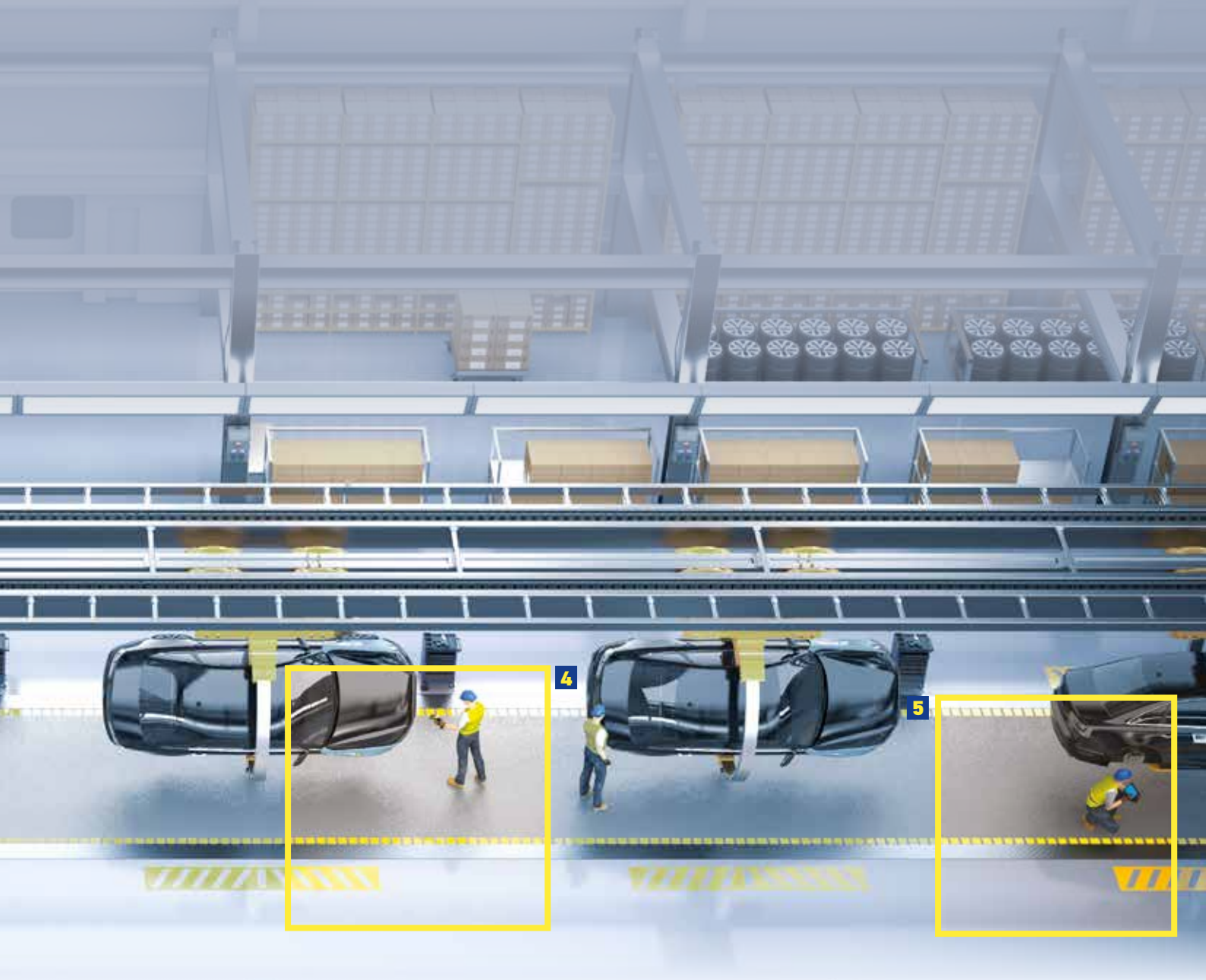
Windscreen assembling requires an accurate approaching phase of the robot gripper in order to guarantee a precise and soft positioning of it. The S85 distance sensor based on TOF technology is used to measure the approaching distance of the robot gripper from the body shop.

2. AUTOMATIC UNATTENDED IDENTIFICATION

Automated assembling processes always require the identification of the car to ensure maximum quality and total production traceability. The Matrix 410N, featuring C-Mount lenses and powerful embedded illuminators, delivers robust barcode reading capabilities while covering a wide area.

3. MACHINERY SAFEGUARDING

Car bodies are lifted or lowered to different transport levels. The SG BODY REFLECTOR MUTING prevents entry of a person into the hazardous area leaving chassis to exit.
The LASER SENTINEL monitors inner area preventing someone from standing behind the light curtain.



4. WIP TRACEABILITY

Operators have to identify the car chassis at every assembling stage in order to keep track of the operation performed. The combination of PowerScan handheld scanners, SD9030 dongle and SH Blackline Panel PC delivers reliable barcode reading while providing real-time feedback for the operators.

5. PRODUCTION QUALITY MONITORING

Along the production line, manual inspection points are defined to make sure results are in line with the quality standards. With the Taskbook, operators can benefit from having a portable yet rugged multi touch wide-screen tablet allowing to retrieve production data, take pictures and quickly report errors.

AUTOMOTIVE PRODUCT PORTFOLIO

DATALOGIC
EMPOWER YOUR VISION

STATIONARY INDUSTRIAL SCANNERS

	MATRIX 120™	MATRIX 220™	MATRIX 300N™
			
	• Ultra compact dimensions for easy integration • Smart user selectable focus for high application flexibility • ESD and Polarized Versions	• All-In-One DPM illuminator for strong DPM reading performance • Smart electronic focus control for high reading flexibility • New multicore image processing platform excellent for high speed applications	• Manual and electronic focus control options • Integrated dual illuminator: dark field/ bright field • Polarized model available
Reading distance (min / max)	Matrix 120 - WVGA: 25-190 mm [1.0-7.5 in] Matrix 120 - MP: 25-220 mm [1.0-8.7 in]	Matrix 220 - STD: 40-600 mm [1.6-23.6 in] Matrix 220 - DPM: 40-300 mm [1.6-11.8 in]	25 - 450 mm [1.2 - 19.7 in]
Focusing system	Manual adjustment in three precalibrated positions	Electronic focus control	Electronic for liquid lens model (LQL-9MM)
Sensor	CMOS sensor WVGA - 752x480 px CMOS sensor MP - 1280x960 px	CMOS sensor SXGA - 1280x960 px	CMOS sensor SXGA - 1280x1024 px
Frame rate	57 frame/s (WVGA model) 36 frame/s (MP model)	45 frames/s	60 frames/s
Code reading capabilities	Omnidirectional on any code type	Omnidirectional on any code type	Omnidirectional on any code type
IP rating	IP65	IP65, IP67	IP67
Temperature range	0 to 45 °C [32 to 133 °F]	-10 to 50°C [14 to 122 °F]	0 to 50 °C [32 to 122 °F]
Case material	Zama (Zinc Alloy) - Plastic reading window cover	Aluminium case and plastic protective window cover	Aluminum, Plastic protective window cover
Dimensions (typical value)	45.4 x 31.1 x 23.5 mm [1.8 x 1.2 x 1 in] (SER+USB model) 45.4 x 48.5 x 23.5 mm [1.8 x 1.9 x 1 in] (SER+ETH model)	78 x 47 x 38 mm [3.07 x 1.85 x 1.50 in] Connector at 0° 57 x 47 x 58 mm [2.63 x 1.85 x 2.30 in] Connector at 90°	95 x 54 x 43 mm [3.74 x 2.13 x 1.69 in]
Weight	117 g [4.1 oz] with cable (SER+USB model) - 200 g [7.1 oz] with cable (SER+ETH model)	173 gr [6.1 oz]	485g [17 oz] with lens and internal illuminator
Esd safe	YES	YES, available as front cover accessory	YES
Yag laser protection	YES	YES, available as front cover accessory	YES
POE models	---	YES	
Embedded communication interfaces	RS-232/RS-422/USB 2.0 high speed (USB-CDC, USB-HID) Main RS-232 or RS-422 FD (2400 to 115200 bit/s)	All models except PoE: - Ethernet 10/100 Mbit/s: TCP/IP, UDP, FTP and Fieldbus PROFINET-IO, Ethernet IP, Modbus TCP - Serial RS232/RS422FD up to 115.2 Kbit/s + Serial Aux RS232	All models except PoE: - Ethernet 10/100 Mbit/s: TCP/IP and Fieldbus PROFINET-IO, Ethernet IP, Modbus TCP - Serial RS232/RS422FD up to 115.2 Kbit/s + Serial Aux RS232
Xpress interface™	YES		
Digital inputs	2 SW Programmable (PNP/NPN)	All models except PoE: 2 inputs opto-coupled and polarity insensitive PoE models: 1 input opto-coupled and polarity insensitive	2 opto-isolated. Polarity insensitive and SW Programmable.
Digital outputs	2 SW Programmable (PNP/NPN)	3 Outputs (not available on PoE models): Configurable NPN, PNP, PP short-circuit protected	3 SW programmable PNP/NPN (short circuit protection)
Device programming	Windows™ based SW (DL.CODE™) via Ethernet		

STATIONARY INDUSTRIAL SCANNERS

	MATRIX 410N™	MATRIX 450N™	DS5100
			
	• Patented ultra-fast strobed lighting with stable effect for operator • Patent Pending Packtrack 2D for short object gapping in sortation applications • Single reading point or multiple device cluster with easy and flexible configuration	• Gigabit Ethernet integrated connectivity • Adjustable focus through C-Mount lenses • White and blue lighting options continuous, no-flashing lighting	• Medium, Long Range, Linear and Oscillating Mirror models, selectable focus for high application flexibility • Selectable focus system • Display and multi-language messages
Reading distance (min / max)	50-2000 mm [1.97 - 78.74 in]	300-3000 mm [11.81 - 118.11 in]	200 - 1350 mm [7.87-53.15 in]
Focusing system	Variable Focus	Variable Focus	Mechanically adjustable focus with locking
Sensor	CMOS sensor SXGA - 1280 x 1024 px CMOS sensor UXGA - 1600 x 1200 px	CCD sensor 5 MP - 2448 x 2050 px	---
Frame rate/scan rate	60 frames/s (SXGA model) 45 frames/s (UXGA model)	15 frames/s	800 scan/s
Code reading capabilities	Omnidirectional on any code type		
IP rating	IP67	IP65	IP65
Temperature range	0 to 50 °C [32 to 122 °F]	0 to 50 °C [32 to 122 °F]	0 to +50 °C [32 to 122 °F] Subzero version -35 to 50°C [-31 to 122 °F]*
Case material	Aluminum	Aluminum	Aluminum
Dimensions (typical value)	123 x 60.5 x 87 mm [4.84 x 2.38 x 3.42 in]	170 x 200 x 150 mm [6.69 x 7.87 x 5.90 in]	101 x 85 x 42 mm [3.98 x 3.35 x 1.65 in]
Weight	482g [17 oz] with lens and internal illuminator	3 kg [105.8 oz] with lens	580 g [20.4 oz]
Esd safe	YES (with accessories)	---	
Yag laser protection	YES (with accessories)	---	
POE models	---		
Embedded communication interfaces	- Ethernet 10/100 Mbit/s: PROFINET-IO, Ethernet/IP, TCP/IP, FTP, HTTP, Modbus TCP, - Serial: RS232 / RS422 FD	- Ethernet 10/100 Mbit/s: TCP/IP, Ethernet IP and Modbus TCP - Serial: RS232 / RS422 FD, Serial Aux RS232	- Ethernet 10/100 Mbit/s: Ethernet/IP, Ethernet TCP/IP, PROFINET-IO and Modbus TCP - Serial: Main port RS232/RS485 FD Serial Aux RS232
Xpress interface™	YES		
Digital inputs	2 SW programmable, optocoupled and polarity insensitive		2 Input (optocoupled, NPN/PNP)
Digital outputs	3 SW programmable, optocoupled		2 Outputs (optocoupled)
Device programming	Windows™ based SW (DL.CODE™) via Ethernet		Windows™ based SW (Genius)

HAND HELD SCANNERS

	POWERSCAN™	GRYPHON™ 4500	RIDA
			
	• Different reading technologies to fit all applications • Example of ruggedness and durability • Datalogic's STAR Cordless System 2.0 proprietary narrow band radio • 3-second battery replacement	• Ultimate design and undisputed ergonomics • High-res megapixel sensor for outstanding results • Wireless charging (no need for contact cleaning or maintenance procedures) • Powerful long lasting battery easy replaceable	• Small, ergonomic, perfectly hand-fitted • Innovative, unique and compact design for a new and modern operator's experience • Compatible with Android, Apple iOS and Windows Mobile devices • Vibration and good read feedback
Reading technology	Linear Imager, Laser, Area imager	Area Imager	
Reading range	Instinctive / Distance Auto Range DPM Models: Contact / Instinctive	Distance	Instinctive
Aiming system	Laser line, 4-Dot/Center Cross Aimer, Frame Aimer/Center Cross	4-Dot/Center Cross Aimer	4-Dot Aimer
Wide scan angle	Yes (95XX model)	---	---
Bar codes	1D and 2D	1D, 2D and Dotcode	1D and 2D
Direct Part Marked (DPM) codes	DPM Model		---
Image capture	YES		
Reads from smartphone or screen displays	YES		
Datalogic's 'green spot' technology	YES		
IP rating	IP65	IP52	
Drop to concrete	2.0 m / 6.6 ft	1.8 m / 5.9 ft	1.5 m / 5.0 ft
Factory warranty	3 Years	GD4500: 5 Years; GBT4500, GM4500: 3 Years	3 Years
Wireless technology (Star / Bluetooth®)	Bluetooth® 3.0 STAR: 433 or 910 MHz	Bluetooth® 4.0 STAR: 433 or 910 MHz	Bluetooth® 4.0
Wireless range - travel distance from base	BT: Up to 100 m / 328 ft 433: Up to 100 m / 328 ft 910: Up to 400 m / 1,312 ft	BT: Up to 100 m / 328 ft STAR: Up to 50 m / 164 ft	25.0 m / 82.0 ft
Display / keypad for 2-way communication	PM9100, PM93XX AR, PM9500	---	
Batch mode capability	YES		
Battery type	Li-Ion 2150 mAh	Li-Ion 3250 mAh	Li-Ion 700 mAh
Battery life - Scans between charge	PBT: 50,000 + / PM: 50,000 +	GBT: 80,000 + / GM: 60,000 +	---

LASER MARKING SYSTEMS

	AREX400	UNIQ	VLASE
			
	• Ultra compact Scanhead with high protection grade • High performance embbedded controller • Robotic grade robust flexible conduit, Green Spot markign confirmation, buil in SLO (Safe Laser Off); UL listed • Full Lighter Software Suite with MARVIS (Code Mark & Verify) support	• Ultra compact laser units with IP54 protection grade • ALL-IN-ONE system design, no external controller, power supply • Built in SLO (Safe Laser Off) • Full Lighter Software Suite with MARVIS (Code Mark & Verify) support	• Compact, high performance laser • Resonator, High Peak power up to 60 kW • Infrared, Green and UV on same platform • Full Lighter Software Suite with MARVIS (Code Mark & Verify) support
Wavelenght	1060-1080	1060-1080	1064, 532, 355
Nominal power	10, 20, 30 , 50 & 20 MOPA	15	10, 20 INFRARED 10 GREEN, 3 UV
Repetition rate	2 - 200 KHz	15 - 100 KHz	15-200 KHz
Pulse energy	1 mJ	0.75 mJ	up to 0.65 mJ
Marking capabilities	Static, Rotary AXis, on the fly (marking in motion)		
I/O & interfaces	3x Ethernet, RS232, 6x USB Programmable Digital I/O built in controller for 4 mechanical axis Dedicated connectors for Encoder, Photocell, Code reader, Smart camera, Displacement sensor	1x Ethernet, RS232, 4x USB Programmable Digital I/O built in controller for 4 mechanical axis Dedicated connectors for Encoder, Photocell	1x Ethernet, RS232, 4x USB Programmable Digital I/O built in controller for 4 mechanical axis Dedicated connectors for Encoder, Photocell
Power supply	100/240 VAC 50/60Hz		
Cooling system	AIR		
Temperature range	5 to 40 °C [41 to 104 °F]		
IP grade	IP64 HEAD - IP31 RACK	IP54	IP44 HEAD - IP21 RACK
Head dimension	89 x 96 x 311 mm [3.5 x 3.7 x 12.2 in]	183 x 150 x 497 mm [7.2 x 5.9 x 19.5 in]	166 x 128 x 686 mm [6.5 x 5.03 x 27 in]
Head weight	3.3 Kg / 72.7 lb	3.1 Kg / 68.3 lb	3.7 Kg / 81.5 lb

SAFETY

	SLS-SA5-08	SLS-M5-0812	SLS-R5
			
	• More than 72 m² safely monitored, with 5.5 m / 180.4 ft over 275° • High detection performances in compact size • Advanced dust filtering		
Type (EN61496-1)	3		
PL (EN ISO 13849-1)	d		
SIL (IEC 61508)	2		
Detection capability	40 / 70 mm [1.5 / 2.7 in] selectable		
Angular resolution	0.1°		
Safety zone operating range	0.05 - 5.5 m / 0,16 - 18 ft		
Warning zone max operating range	0.05 - 40 m / 0,16 - 131,2 ft with remission of target = 90% (white)		
Max. number of symultaneous warning zones	2		
Max. opening angle	275°		
Tolerance zone	100 mm [3.9 in]		
Power supply (Vdd)	24 Vdc ± 20%		
Output current	0.25 A max / each OSSD		---
Output Capacitive load	2.2 uF @ 24Vdc max		
Input Load current	6 ... 15 mA		
Input saturation voltage	> 15 V		
Input Capacitive Load	22 uF		
Operating temperature	0 to 50 °C [32 to 122 °F]		
Storage temperature	-20 to 70 °C [-4 to 158 °F]		
Humidity	15 to 95 % (no condensation)		
IP rating	IP65 (EN 60529)		
Connector used		M12 8 pin	M12 12 pin
Safety Outputs (OSSDs)	1 x 2		---
Standard Inputs	0	2	1
Standard Inputs/Standard Outputs (configurable)	3	1	4
Response time			
for main unit	Min: 62 ms; Max: 482 ms		
for any additional slave unit		10 ms	
Max. Zone sets number in any activation order (*1):			
with 1 safety zone	3	3	10
with 1 safety zone + 1 warning zone	2	2	6
with 1 safety zone + 2 warning zone	---		3
Max. Zone sets number in a particular activation order (*2):	6	---	---
Zone set input switching time	Min: 30 ms; Max: 5000 ms		
Manual / automatic restart	YES		
Reset (power cycle)	YES		
Total Muting (monodirectional or bidirectional)	YES		
Reference Points	YES		
Override	YES (*3)	YES	---
Muting Lamp	YES		
Muting Enable	YES (*3)	YES	
Clean Window Alarm	---	YES	
Generic Fault Alarm	YES		
Measurement data	YES (*4)	YES (*5)	
Measurement data angolar resolution	0.1°		0.5°

NOTES

*(*1) The max number of zone sets switching is reached when all available inputs are used for zone set switching*

*(*2) With 1 safety zone only, up to 3 zone sets are available in any activation order. Up to 6 are available only using some allowed activation order. Refer to Manual and GUI for details.*

*(*3) Ovverride Input, Muting Enable input and Muting Lamp output on SLS-SAx are mutually exclusive*

*(*4) Using the programming connector on the front of the device*

*(*5) Using the rotating connector in the back of the device*

SAFETY

	SG4 EXTENDED	SG4 BODY COMPACT	SG BODY REFLECTOR
			
	• Up to 20m / 65.6 ft operating range and 1800m / 5905.5 ft protected height • Cascade connection of up to 3 units • Ethernet Interface for programming, monitoring and error logging	• Controlled heights of 500, 800, 900 and 1200 mm [19.6, 31.4, 35.4, 47.2 in] • Simple configuration through DIP switches • Integrated muting lamp (only on muting models)	• Simple configuration through DIP switches • Integrated muting lamp (muting models) and external muting enable signal • Anti-interference coding
Type (EN61496-1)	4		
PL (EN ISO 13849-1)	e		
SIL (IEC 61508)	3		
Resolution	14, 30 mm [0.55,1.18 in]	315 mm [12.4 in] (4 beams) 415 mm [16.3 in] (3 and 4 beams) 515 mm [20.2 in] (2 beams)	319,75 mm [1258.8 in] (4 beams) 419,75 mm [1652.5 in] (3 and 4 beams) 519,75 mm [2046.2 in] (2 beams)
Protected height	300 - 1800 mm [11.8 - 70.8 in] (with 150 mm [5.9 in] steps)	515 mm [20.2 in] (2 beams) 815 mm [32 in] (3 beams) 915 or 1215 mm [36 or 47.8 in] (4 beams)	500 mm [19.6 in] (2 beams) 800 mm [31.4 in] (3 beams) 900 or 1200 mm [35.4 or 47.2 in] (4 beams)
Operating distance	0.2 to 7 m / 6.5 - 22.9 ft (14 mm [0.5 in] resolution) 0.2 to 20 m / 6.5 to 65.6 ft (30 mm [1.1 in] resolution)	0.5 to 50 m / 0.16 - 164 ft	0.5 to 8 m / 0.16 - 26.2 ft 0.5 to 6.5 m / 0.16 - 213.2 ft (for SG4-RB4-090-00-E)
Dead zone	No dead zone	---	
Power supply (Vdd)	24 Vdc ± 20		
Outputs	2 PNP, with short circuit protection 2 PNP	2 PNP	
Output current	0.5 A max/each output		
Capacitive load	2.2 uF @ 24Vdc max	65 nF max at 25°C [77 °F]	2,2 uF max at 25°C [77 °F]
Response time	13 to 33 ms depending on model	14 to 16 ms depending on model	11 to 12 ms depending on model
Cable length (for power supply)	50 m / 164 ft max		70 m / 229.6 ft max
Operating temperature	0 to 50 °C [32 to 122 °F]	0 to 55 °C [32 to 131 °F]	
Humidity	15 to 95 % (no condensation)		
IP rating	IP65 (EN 60529)		
Anti-interference coding	YES	---	YES
Muting	YES		YES
Partial muting	YES		---
Override	YES		YES
Floating blanking	YES		---
Fixed blanking	YES		
Reduced resolution	YES		

MOBILE COMPUTERS

	SKORPIO™ X4	FALCON™ X4	MEMOR™ 10
			
	• 2 choices of Operating Systems: Windows Embedded Or Android™ Operating Systems • 1D and 2D choices of scan engine • Standard and extended battery	• Choice of windows embedded or Android™ operating systems • Full-shift hot swappable battery • Choice of 1D or 2D imagers featuring Datalogic's patented 'Green Spot', plus new 2D Auto Range option	• Wireless charging eliminates all contacts on the device and cradle • Dual band Wi-Fi including the latest 802.11ac standard and 802.11r/k for fast roaming • Full suite of cellular connectivity for voice and data, featuring LTE-Advanced/4G+
Operating System	Windows Embedded Compact 7 / Android v4.4		Google Android 8.1 (Oreo) with Google Mobile Services (GMS)
CPU, Processor	TI OMAP4 @ 1 GHz		2 GHz Octa-core
Memory: RAM / ROM	RAM: 1 GB; Flash: 8 GB		RAM: 3 GB; Flash: 32 GB
Display	Transflective TFT / LCD, QVGA 240 x 320 px; 3.2 in diagonal	Transflective TFT / LCD, QVGA 240 x 320 px; 3.5 in diagonal	5.0 in IPS; 720 x 1280 px HD resolution
1D/Linear Codes/2D Codes/ 2D Imager	YES	YES, including new Near/Far Auto Range capability	YES
Wireless Charging	---		YES
Local Wireless Radio (Wi-Fi, Bluetooth)	TI Wi-Link 8, IEEE 802.11 a/b/g/n; Bluetooth® v4 / BLE (Android models); Bluetooth® v2.1 + EDR (WEC7 models); MIMO		Bluetooth® v4.2 (Classic Bluetooth wireless technology and BLE)
Wireless Wide Area Network (WWAN)	---		LTE-Advanced/4G+; Cat 6
Wired Communications	RS-232; USB; Ethernet		USB 2.0 Client
Keypad / Keyboard Options	50-key full alphanumeric, 38-key functional; 28-key numeric keyboard	29-Key (also in functional version); 52-Key	3 programmable keys
Camera	---		13 MP color
Voice Capability			VoiP
IP Rating	IP64	IP65	
Drop to Concrete	1.8 m / 6.0 ft		1.5m / 5ft
Operating Temperature	-10 to 50 °C [14 to 122 °F]	-20 to 50 °C [-4 to 122 °F]	
Weight	Hand held (w/stan. battery): 388 g / 13.7 oz Pistol grip (w/stan. battery): 482 g / 17.0 oz	Hand held: 602.0 g / 21.4 oz Pistol grip: 668.0 g / 23.6 oz	285.0 g / 10.0 oz

MOBILE COMPUTERS

	RHINO II™	SH15/SH21	TASKBOOK
			
	• 10 inch or 12 inch high resolution color display • Operating System: WEC7, Windows 7 Emb, Windows 10 IoT or Android 7.1 • Capacitive multi-touch screen with gloves support or resistive touch screen for cold/ freezer environments	• 15 inch or 21 inch high resolution color display • Operating System: Windows 7 Emb or Windows 10 IoT • Integrated high-efficiency power supply for both DC (only SH15) and AC applications	• 7 inch e 10 inch with Corning Gorilla Glass • Operating System: Windows 10 IoT • Dock Station with AC or DC power supply and handgrip available*
Operating System	WEC7, Windows Embedded Standard 7, Windows 10 IoT Enterprise 64 bit, Android 7.1	Windows Embedded Standard 7 or Windows 10 IoT Enterprise	Windows® 10 IoT Enterprise 64-bit
CPU, Processor	Proc. ARM 4 x 1.0 GHz; Proc. Intel E3826 2 x 1.46 GHz	Intel Atom E3845 Quad Core 1.91 GHz Intel i5-5350U Dual Core 1.8 GHz	Intel E3826 2 x 1.46GHz
Memory: RAM / ROM	RAM: 1/2 Gb (Arm), 4 GB (Intel) Storage: 32 GB CFAST/SD Card	RAM: 4 GB (Quad Core); 16 GB (i5) Storage: 32 GB CFAST/SD Card	RAM: 4 GB
Display	Freezer: 10.4 inch SVGA 800 x 600, 400 NITS Standard: 10.4 inch XGA 1024 x 768, 350 NITS 12.1 inch XGA, 1024 x 768, 500 NITS	SH15 XGA 1024 x 768, 400 NITS SH21 FHD 1920 x 1080, 350 NITS	7 in: WSVGA 1024 x 600, 420 cd/m² 10 in: WXGA 1280 x 800, 350 cd/m²
Local Wireless Radio (Wi-Fi, Bluetooth)	Wi-Fi 802.11 a/b/g/n (2.4 & 5 GHz); Cisco CCX v4; Bluetooth® v4.0		Wi-Fi 802.11 a/b/g/n/ac/r; Bluetooth® v4.0
Wired Communications	Ethernet; USB; RS-232 (5 and 12 V)		On the device: USB-C On the docking station: Ethernet; USB; RS-232
Keypad / Keyboard Options	4 programmable keys; Customizable Software Keyboards		1 programmable key; Customizable Software Keyboards
Camera	---	---	5 MP color rear camera
IP Rating	IP65 / IP67		IP65
Drop to Concrete	---		1.2 m / 4.0 ft
Operating Temperature	Standard Model: -20 to 50 °C [-4 to 122 °F] Freezer Model: -30 to 50 °C [-22 to 122 °F]	-20 to 55 °C [-4 to 131 °F]	
Weight	10 in Freezer Model: 3.4 Kg / 7.5 lb 10 in Standard Model: 3.6 Kg / 7.9 lb 12 in Standard Model: 4.7 Kg / 10.4 lb	SH15: 6.5 Kg / 14.3 lbs SH21: 10.8 Kg / 23.8 lbs	7 in 733 g / 25.8 oz 10 in 1044 g / 36.8 oz
Notes			

** Mobile handgrip with optional hot swappable battery and Standard or Auto Range 2D Imager; Standard range up to 1.1 m / 43 inches; Auto Range up to 15 m / 50 ft*

SENSORS

	S67-Y	S3Z	S5N IO-Link
			
	• Resolution of 10um@50mm distance on white 90% remission • Response time less than 0,9ms Linearity error of +/-0,03mm@50mm range • Robust light interference suppression	• 50-250 mm background suppression • 0.7 m proximity, 150 mm with narrow beam / 4 m polarized retroreflective / 15 m through beam • Light and dark trimmer models	• All the basic optic functions available • M18 flat plastic with universal mounting or available in M18 metal housing • Axial or radial optics, cable or connector
Power supply	12 – 28 Vdc +/- 10%	15 - 30 Vdc (limit values)	10 - 30 Vdc (limit values)
Consumption (output current excluded)	100 mA	30 mA max. (LED mod.) 35 mA max. (Laser mod.)	35 mA max. (mod. S5N...B01/C01/C21/E01/T01) 30 mA max. (mod. S5N...F01)
Light emission	650 nm Pulsed RED Laser Diode CLASS 2 According to IEC 60825-1 (2014) Complies with 21 CFR 1040.10 and 1040.11	red LED 650 nm (mod. S3Z...T51) red LED 665 nm (mod. S3Z...B01/C01) red LED 670 nm (mod. S3Z...M01) IR LED 850 nm (mod. S3Z...C11) IR LED 870 nm (mod. S3Z...F01/G00) red Laser 650 nm (mod. S3Z...B01/F01/G00/M01)	red LED 630 nm (mod. S5N...E01) red LED 660 nm (mod. S5N...B01/T01) IR LED 880 nm (mod. S5N...C01/C21/G00)
Setting	Push Button Teach in	sensitivity trimmer, 6 turns screw (mod. S3Z...M01), LIGHT/DARK trimmer model available (mod.S3Z...-PP, -NN)	sensivity trimmer (mod. B01/C01/C21/E01/F01/T01)
Operating mode	No Adjustment	LIGHT/DARK trimmer (Laser mod. S3Z...-PP, -NN), LIGHT (mod. S3Z...-PL, -NL), DARK (mod. S3Z...-PD, -ND)	LIGHT mode on N.O. output / DARK mode on N.C. output (mod.S5N...C01/C21) DARK mode on N.O. output / LIGHT mode on N.C. output (mod.S5N...B01/E01/F01/T01)
Indicators	Red LED Alarm/Soiled lens indicator Green LED Power indicator Push Button Teach in	yellow OUTPUT LED, green STABILITY LED (mod. S3Z...B01/C01/C11/F01), POWER ON LED (mod. S3Z...G00)	yellow OUTPUT LED green STABILITY LED (mod. S5N...B01/C01/C21/E01/F01), POWER ON LED (mod. S5N...G00)
Output	Current Analog Output 4 to 20mA Voltage Analog Output 0 to 10V	PNP or NPN (short circuit protection)	PNP or NPN; NO; NC (mod. S5N)
Output current	@10kOhm	100 mA max.	
Response time	< 900 µs long range	1 ms max. (LED mod.) 250 µs max. (Laser mod.)	0,5 ms (mod. S5N...B01/T01/C21/C01/E01) 2 ms (mod. S5N...F01/G00)
Switching frequency	1 kHz	500 Hz max. (LED mod.) 2 kHz max. (Laser mod.)	1 kHz (mod. S5N...B01/T01/C21/C01/E01) 250 Hz (mod. S5N...F01/G00)
Connection	Rotatable M12 5poles	2 m cable Ø 3,5 mm, M8 4-pole connector	2 m cable Ø 4 mm, M12 4-pole connector
IP rating	IP67		
Housing material	die-cast zinc	body PBT, indicators cover PC	Plastic version PBT Metal version nickel plated brass
Lens material	Glass	PMMA, PC (mod. S3Z...B01)	PMMA
Operating temperature	0 to 50°C [32 to 122 °F]	-25 to 55 °C (LED mod.), -10 to 55 °C (Laser mod.)	-25 to 55 °C
Storage temperature	-25 to 70 °C [-13 to 158 °F]	-40 to 70 °C (LED mod.), [-40 to 158 °F] -25 to 70 °C [-13 to 158 °F] (Laser mod.)	-25 to 70 °C [-13 to 158 °F]
Weight	180 g max	50 g max cable vers. , 10 g max conn. vers.	Plastic version 75 g max cable vers., 25 g max conn. vers. Metal version 110 g max cable vers., 60 g max conn. vers.

SENSORS

	LD46	S85	S8
			
	• High sensitivity on fluorescent marks • 10 - 50 mm [0.39 - 1.9 in] detection distance • 2 kHz switching frequency	• TOF technology class2 red laser • Measuring range up to 10m or 20m [32.8 - 65.6 in] • 1 mm resolution, 7 mm [0.02 in] accuracy, 1 mm repeatability	• Compact dimensions (14x42x25 mm) [0.04x0.13x0.08 in] • Background suppression for transparent and shiny objects • Extremely focused spot, under 1 mm (LASER models)
Power supply	15 ... 30 Vdc (limit values)	24 Vdc ± 20%	12 ... 30 Vdc (short-circuit protection)
Consumption (output current excluded)	50 mA max. at 24 Vdc	2,8 W max. (mod. S85...Y03) 3 W max. (mod. S85...Y13)	30 mA; 35 mA (mod. S8...M01); 20 mA (mod. S8...F), 15 mA (mod. S8...G) max.
Light emission	UV LED 375 nm	red Laser 658 nm	red LED 660 nm (mod. S8...B/C/M/G/T) RGB LEDs: blue 465 nm, green 520 nm, red 630nm with automatic selection (mod. S8...W) UV LED 375 nm (mod. S8...U) red Laser 645..665 nm (mod. S8...B/M)
Setting	SET push-buttons	push-buttons (mod. S85...Y03) push-buttons and display (mod. S85...Y13)	8-turn distance adjustment trimmer (mod. S8...M53/M) LIGHT / DARK mono-turn trimmer (mod. S8...B/C/F/T51) teach-in push button (mod. S8...M53/W03/W13/T53/U) remote input (mod. S8...W/U/T50/T53)
Operating distance	10 ... 20 mm [0.03 - 0.06 in] (LD46-UL-715) 20 ... 40 mm [0.06 - 0.13 in] (LD46-UL-755) 30 ... 50 mm [0.09 - 0.16 in] (LD46-UL-735)	90% white target 0,2...10 m / 0.6...32.8 ft (mod. S85...Y03), 0,2...20 m / 0.6...65.6 ft (mod. S85...Y13) 18% grey target 0,2...5 m / 0.6...16.4 ft (mod. S85...Y03), 0,2...8 m / 0.6...26.2 ft (mod. S85...Y13) 6% black target 0,2...3 m / 0.6...9.8 ft (mod. S85...Y03), 0,2...5 m / 0.6...16.4 ft (mod. S85...Y13)	mono-turn trimmer (mod. S8...B/C/F/M/T/U/W13) automatic (mod. S8...W/T50) remote input (mod. S8...M53)
Indicators	yellow OUTPUT LED green READY LED orange DELAY LED and KEYLOCK LED 5-segment bargraph	yellow Q1 LED, Q2 LED green/red POWER/OUT OF RANGE LED 5-digit multi display (mod. S85...Y13)	yellow OUTPUT LED (excl. mod. S8...G), OUTPUT/ALARM LED (mod. S8...M53/M/C) green POWER ON LED
Output	PNP/NPN; analog output	push pull/Q (mod. S85...Y03) PNP, NPN, push pull, Q, Qneg (mod. S85...Y13)	PNP or NPN N.O.
Output current	100 mA max	100 mA	100 mA (overload protection)
Response time	250 µs	slow 45 ms (mod. S85...Y13) medium 30 ms fast 15 ms (mod. S85...13)	1 ms (mod. S8...M53/M) 500 µs (mod. S8...B/F/C) 250 µs (mod. S8...T) 100 µs (Laser vers. mod. S8...M) 50 µs (mod. S8...W00/W03 e Laser mod. S8...B) 20 µs (mod. S8...W13) 250 µs...1 ms (mod. S8...U)
Switching frequency	2 kHz	slow 22Hz (mod. S85...Y13) medium 30Hz fast 66Hz (mod. S85...13)	500 Hz (mod. S8...M53/M) 1 kHz (mod. S8...B/F/C) 2 kHz (mod. S8...T) 5 kHz (Laser vers. mod. S8...M) 10 kHz (mod. S8...W00/W03 e Laser mod. S8...B) 25 kHz (mod. S8...W13) 500 Hz...2 kHz (mod. S8...U)
Connection	M12 5-pole connector	M12 5-pole connector (mod. S85...Y03), M12 8-pole connector (mod. S85...Y13)	M8 4-pole connector, 150 mm [0.4 in] length Ø 4 mm [0.01 in] cable with M12 4-pole connector (pig-tail vers.)
IP rating	IP67		IP67, IP69K (mod. S8-M)
Housing material	aluminium	ZINC ALLOY ZAMA 13 EN-1774/PC LEXAN 121R display	ABS, Stainless Steel AISI346L
Lens material	glass	PMMA	window in PMMA; lens in PC
Operating temperature	-10 to 55 °C [14 to 131 °F]	-15 to 50 °C [5 to 122 °F]	-10 to 55 °C [14 to 131 °F]
Storage temperature	-25 to 70 °C [-13 to 158 °F]		-20 to 70 °C [-4 to 158 °F]
Weight	180 g / 6.34 oz max	250 g / 8.81 oz max	12 g / 0.42 oz max conn. vers., 50 g / 1.76 oz max pig-tail vers., 70 g / 2.46 oz max (mod. S8-M)

VISION SYSTEMS

	MX-E SERIES	P SERIES	A/T SERIES
			
	• Multi-camera vision processors • GigE Vision camera connectivity • Three models with different processing capabilities	• Right-angle IP67 rated enclosure with rotating connectors • VGA (640x480) or 1.3 MP (1280x1024) with color or grey-scale imagers • Embedded interchangeable lenses and illuminators	• High performance Smart Camera series (T-Series) • Up to 5Mpix grey-scale imager (T-Series) • Gbit Ethernet Port
Format	---	Right angle (with rotating connectors)	Right angle
Imager	Support for up to four POE GigE cameras 640 x 480 up to 2448 x 2048 (up to 16MP with 3rd party cameras).	640 x 480, 1/4" CMOS, 120 fps 1280 x 1024, 1/1.8" CMOS, 60 fps	640 x 480, 1/3" CCD, 60 fps (A/T-Series) 1600 x 1200, 1/1.8" CCD, 15 fps (T47) 2448 x 2048, 2/3" CCD, 15 fps (T49)
Image	Area Scan Grayscale, Area Scan Color, Linescan, and 3D	8 bit gray-scale 24 bit color	8-bit gray-scale
Lens mount	C-Mount and F-Mount	Embedded lenses	C-Mount
Processor (T-Series)	Intel® Celeron 1047UE 1.4 Ghz – dual core (MX-E20) Intel® Celeron 1020E 2.2 Ghz – dual core (MX-E40) Intel® Core i7 3615QE 2.3 Ghz – quad core (MX-E80)	660 MHz DSP	800 MHz DSP (A-Series) 1.1 GHz DSP (T-Series)
On-board image buffering	---	Up to 16	
On-board Program Storage	60GB (MX-E20/40) 128GB (MX-E80)	256 MB flash	
Dedicated on-board Optically isolated i/o	32x opto-isolated digital inputs / outputs (16 IN - 16 OUT), NPN or PNP	2 INPUT 3 OUTPUT	
RS-232 Serial	YES		
Ethernet	YES Supports Ethernet/IP, Modbus TCP and OPC, Profinet		YES Supports Ethernet/IP, Modbus TCP and OPC
External button	---	YES	
Power supply	24 Vdc +/- 25%	10 - 30 Vdc	
Consumption (output current excluded)	5.5 A @ 24 Vdc	0.7 - 0.2A	1 - 0.33 A (A-SERIES) 1 - 0.33 A (T40) 1.05 - 0.35 A (T47) 1.2 - 0.4 A (T49)
Dimensions	270 x 130 x 255 mm [10.6 x 5.1 x 10 in]	95 x 54 x 43 mm [3.7 x 2.1 x 1.7 in] Connector @ 0° 75 x 54 x 62 mm [3.0 x 2.1 x 2.4 in] Connector @ 90°	123 x 60 x 86 mm [4.84 x 2.36 x 3.41 in] - (A-Series) 123 x 60 x 101 mm [4.84 x 2.36 x 3.98 in] - (T-Series)
IP rating	IP20	IP67	
Operating temperature	0 to 55° C [32 to 131° F]	0 to 50 °C [32 to 122 °F]	0 to 45 °C [32 to 113 °F] (A-Series) 0 to 50 °C [32 to 122 °F]
Humidity (non-condensing)	10 to 90%	0 to 90%	0 to 90%

NOTES

NOTES

NOTES

DATALOGIC
EMPOWER YOUR VISION

**Subzero models are not available for offer, sale or distribution in Germany.*

SG-Automotive-ENA4
Revision A 20190227

www.datalogic.com