AUTOMATION RESOURCE GUIDE

6

PITOBOTIQ

UNIVERSAL ROBOTS

Collaborative robots

OMRON DISTRIBUTOR

Now distributing all Omron products

MOBILE ROBOTS

Introducing Fetch Robotics

CUSTOM MACHINES Complete turn-key systems

NDUSTRIAL DISTRIBUTOR | SYSTEMS INTEGRATOR | OEM MANUFACTURER



ONE CONTROLLER

ONE NETWORK

ONE SOFTWARE







PROCESS ORDERS FASTER. INCREASE EFFICIENCY. LOWER COSTS.



onexia.com/fetch-robotics

ABOUT US

onexia.com

Based in Exton, PA ONExia Inc. is an industrial distributor, systems integrator, and OEM manufacturer.



Our partnership with world class vendors gives us the ability to provide our customers with the best solution to their application at any level of involvement.

ONExia is a regional distributor serving Delaware, Maryland, New Jersey, Pennsylvania, Virginia, and Washington, D.C.





ONExia Inc

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800.242.3332 | info@onexia.com

MOTION CONTROLLERS

onexia.com/motion-controllers

With over 30 years of experience in motion control for industrial automation, we provide a complete line of controllers for single and multi-axis applications.

256 Axes of Motion & 1024 I/O Points

onexia.com/delta-tau

The Power PMAC CPU is the most powerful and flexible controller that Delta Tau presently offers, now integrated into this compact, panel mount format. The Power PMAC UMAC CPU can control up to 256 axes, whether through direct local control, distributed control over a MACRO fiber optic ring, or over an EtherCat network.

DELTA TAU MOTION CONTROLLERS

- Flexible Motion Computer
- High-Performance Motion Computer
- Simulink with Power PMAC
- Linux OS plus Windows IDE
- Power PMAC Supports IEC 61131-3
- Sophisticated Firmware & Reliability

Compact Performance Servo Controllers

onexia.com/omron

Great machines are born from a perfect match between control and mechanics. Omron servos give you the extra edge to build more accurate, faster, smaller and safer machines.

OMRON G5 CONTROLLER

The Accurax G5 gives you that extra edge to build faster, accurate, smaller and safer machines.

- EtherCAT, MECHATROLINK-II and Analogue/Pulse drive models
- Frequency response of 2kHz
- High accuracy provided by 20 bit encoder





The Omron Accurax G5 servo motors are designed to work with the G5 Controller. The IP67 rated motors come in sizes ranging from 50W to 15 kW with rated speeds of 1000 rpm, 1500 rpm, 2000 rpm and 3000 rpm.





EtherCAT Ready Servo Controller

The Parker P-Series drives operate with a variety of machine control architectures and offer sophisticated servo functionality.

PARKER P-SERIES

- EtherCAT for high-speed motion bus
- USB communications rotary or linear
- servo motor control400 to 3.5kW power output
- BiSS-C and Endat2.2 absolute feedback
- Quadrature encoder and Analog sin/cos
- 8 inputs/ 4 outputs with EtherCAT models
- 120/240VAC single and three-phase power input

The P Series brushless servo motors are the perfect match with P Series drives, providing high torque and fast settling times with one-touch tuning.





MOTION CONTROLLERS

Motion controllers control a specific point of motion within the project. Most frequently motion controllers are implemented using digital computers, but motion controllers can have only analog components as well.

MACHINE CONTROLLERS

Single and multi-axis controls that can drive entire machines without the need for additional controls.

Modular Machine Controller for OEMs

onexia.com/parker

Powerful, integrated and designed for the global machine market, the Parker Automation Controller (PAC) provides OEMs with a standards-based automation solution designed to tackle the most demanding applications.

PARKER PAC

- PLCopen Motion Control (Parts I & II)
- CNC Programming/Editor Conforming to DIN66025
- Embedded Web-visualization
- High-speed EtherCAT for Motion and I/O
- Dual LANs for Network Separation
- Local and Remote I/O
- OPC Server, Modbus TCP, EtherCAT, and Dual LANs as Standard
- Ethernet/IP, Profinet, and Profibus Options



NExia Inc

MACHINE CONTROLLERS

onexia.com/machine-controllers

ONExia provides machine controllers and PLCs that can drive entire machines without the need for additional control components.

Best in Class Compact PLC

onexia.com/omron

The Omron CP1 PLC family is scalable; you can choose the models with the right level of sophistication to meet your automation needs of functionality, flexibility and pricing.



OMRON CP1 PLC

- 10 to 60 I/O based models, expandable to 320 I/O points
- Digital, analog and temperature sensor I/O expansion units
- Modbus Master feature for easy inverter or temperature control
- Optional boards for RS-232/RS-422/485/Ethernet or LCD display

Compact & Flexible Machine Controller onexia.com/omron

The flagship of Omron's controller lineup is the Sysmac NJ501 Machine Automation Controller (MAC); a completely redesigned hardware platform with a powerful Intel® Atom™ processor, proven for harsh environments.



OMRON NJ5 SERIES

- Class leading industrial-grade design
- Standard feature Ethernet/IP and EtherCAT Master ports
- Backward compatibility with existing Omron CJ type IO & units

PROGRAMMABLE LOGIC CONTROLLER (PLC)

A programmable logic controller (PLC) or programmable controller is a digital computer used for automation industrial electromechanical processes.

MOTORS & AMPLIFIERS

onexia.com/motors-amplifiers

A diverse array of motors and amplifiers that are not only the best fit for your application, but also cost effective.

Motors to Meet the Needs of the Most Demanding Applications

onexia.com/parker

Parker motor technologies provide high power density and better inertia matching. Their motors also feature rapid acceleration or zero cogging making them the most competitive solution for high-volume, OEM opportunities. All of their high performance brushless servo motors offer a wide range of power starting at 50 watts, going all the way up to 22 KW.



PARKER MPP/MPJ/MPW

- 10 models covering three frame sizes
- High torque density packaging
- Cable options available to plug and play
- with competitor drives
- IP69K options available



PARKER MPR

90 mm tall)

- An integrated direct drive servo motor
 Two form factors (mPR 80 80 mm wide x
- 75 mm tall, and mPR 100 104 mm wide x

• Continuous 360 degree operation



PARKER P-SERIES

- 40, 60, 80 mm frame sizes
- 0.2 to 3 Nm continuous stall torque
- 0.5 to 10 Nm (4 to 85 in-lb) peak torque
- Allowable load inertia up to 30 x rotor
- 3000 rpm rated, 5000 rpm max speed

Versatile & Intelligent Amplifier

onexia.com/parker

The Parker Intelligent Amplifier (IPA) operates as a fully programmable stand alone motion controller with on-board I/O and virtual axis capability, which can also be integrated into a PLC or PCbased machine control solution. Software tools are included to optimize motion performance and efficiently monitor and manage the application.

PARKER INTELLIGENT AMPLIFIER

- Ethernet TCP/IP communications
- Libraries for PC application development
- 1.5 axis encoder input for camming, following, and gearing
- Up to 16 multi-tasking programs
- EtherNet/IP adapter supporting both I/O and Explicit Messaging



AC DRIVES

An AC drive is a device that is used to control the speed of an electrical motor. The speed is controlled by changing the frequency of the electrical supply to the motor.

POWER SUPPLIES

A power supply is an internal hardware component that supplies components in a computer with power. It is designed to convert volt alternating current (AC) into a steady lowvoltage direct current (DC) usable by the component.

NExia Inc

Highly Programmable, Integrated Servo Motor System

onexia.com/animatics

The Animatics SmartMotor is a highly programmable, integrated servo motor system that is integrated with a motor, encoder, amplifier, controller, RS232/RS485 communication, and IOs.

MOOG

ANIMATICS 🐼

100G

CLASS 6 SMARTMOTOR

Class 6 SmartMotors have a new powerful processor that operates at nearly twice the processor speed of Class 5 SmartMotor.

- Simplified wiring reduce cost through the on board dual-port Ethernet switch
- Fieldbus communication through EtherCAT[™], PROFINET[™] or EtherNet/IP[™]

CLASS 5 SMARTMOTOR

- Dual trajectory path generators
- Velocity mode and electronic gearing summed together
- Dedicated Firmware command set of traverse and take up winders
- Available with Combitronic, the parallel processing system
- Available with CDS option

AC DRIVES onexia.com/ac-drives

OMRON MX2-V1

The Omron MX2 was developed to harmonize advanced motor and machine control.

- Up to 15 kW
- 200% starting torque
- Torque control in open loop
- Built-in logic programming
- Positioning functionality

POWER SUPPLIES

onexia.com/power-supply

OMRON S8VK-S

The Omron S8VK-s power supply is the perfect fit for small control panels.

- Operation possible at ambient temperatures from -40 to 70°C
- DC input supported (90 to 350 VDC)
- Power boost function at 120%
- Horizontal side-by-side mounting



SL17 SMARTMOTOR

The SL17 SmartMotor is a cost effective integrated servo system with many of the same features included in standard motors.

- Integrated drive and controller
- Powerful AniBasic (BASIClike) language with over 200 commands: IO, program flow, data handling, math, and motion

IP-65 RATED SMARTMOTOR

- Mil-style connectors
- IP65 rating (with optional IP67)
- Sturdy design and thicker motor casing
- 10 points of 24V I/O
- Programmable Limits
- Able to withstand humidity, water, oil and food debris



MOOG A NIMA

MOOG

😎 Animatic

OMRON RX

The Omron RX give you the ability to easily and quickly customize to your application.

- Up to 132 kW
 - High starting torque in open loop: 200% at 0.3 Hz
 - Full torque at 0 Hz in closed loop
 - Sensorless and vector closed-loop control



omron

OMRON S8VK-C

The S8VK-C Lite family is an ideal choice for cost-sensitive applications

- Operating temperature range of -25° to +60°C
- Double set of DC output terminals (three for the negative) provide easy wiring
- Universal input capability, 100 to 240 VAC and 90 to 350 VDC





SERVO MOTOR SYSTEM

A system comprised of closed-loop electric motors and amplifiers which make speed and position corrections based upon feedback.

STEPPER MOTOR SYSTEM

Open-loop motor and drive system that accepts digital commands and responds to digital step and direction inputs.



OMRON

PRECISION POSITIONERS

onexia.com/precision-positioners

We provide various positioning systems and components that can be utilized in a range of processes including manufacturing, transferring and testing. Our skilled engineers can assist help you to decide which solution is perfect for your application.

One of the Most User Friendly Actuators on the Market

onexia.com/parker

With 5 different frame sizes, 2 different drive train options, multiple mounting and carriage options, and an IP54 protective cover option, along with a multitude of other customizable features.

The HMR was truly designed with flexibility in mind.

PARKER HMR

- 5 profile sizes- 085, 110, 150, 180 and 240mm
- Dual drive train Ball Screw or Timing Belt
- Load capacity up to 26,600 N
- Max thrust to 5,560N (Screw) and 4,000N (Belt)
- Standard strokes up to 4000mm (Screw) and 6000mm (Belt)
- Max speed to 1.6 m/s (Screw) and 5 m/s (belt)



Universally Mountable Gearheads

onexia.com/parker

Parker Stealth II Gearheads are designed simply and have universal mounting kits for quick delivery and short installation times.

- In-line & right angle models
- Low-cost model options
- Increased service life



Flexible, Repeatable Miniature Stages

onexia.com/parker

The mSR series of miniature, dual square rail guided, linear motor positioners have been engineered to deliver a combination of modularity, flexibility, and performance in an extremely compact package.

PARKER MSR

- Two form factors (mSR 80 80 mm wide x 25 mm tall, and mSR 100 100 mm wide x 25 mm tall)
- Standard strokes ranging from 25 mm to 500 mm
- Two center driven linear motor technologies (mSR 80 ironcore, mSR 100 ironless)
- Six different encoder options

Plug & Play Linear Servo Motor Tables

onexia.com/parker

The Parker 400LXR table series features slotless linear motor technology with performance matched mechanical elements.

- Certified accuracy & repeatability
- Long life cable management
- Quick delivery



Actuators convert the rotary motion of an electric motor into linear motion. Types include rod and rodless, with either stepping or brushless servo motors.

GEARBOXES

Gearboxes provide speed reduction, increased applied torque, and reduce the load inertia that is reflected back to the motor. Technologies include spur gear and planetary gear models, both in-line and right angle.





Energy Saving Linear Motor for OEM's

onexia.com/parker

The Parker ETT series, tubular style linear motor is a high speed, high acceleration dynamic positioner with a lower cost of ownership when compared to typical pneumatic positioners.

The linear motor technology eliminates the need for an additional belt/screw, gearhead, and motor creating greater performance in a smaller overall package.

PARKER ETT

- Continuous thrust- 8 to 118 N
- Peak thrust 32 to 474 N
- Max speed 4 m/s
- Max acceleration 200 m/s2
- IP67 rated



Smallest Linear Servo Driven Positioner

onexia.com/parker

The Parker MX80L is a high-performance linear servo motor stage designed to meet today's 24/7 production demands requiring rapid fire precision.

PARKER MX80L

- 25 mm high x 80 mm wide
- Linear servo-motor drive
- 5G acceleration
- High velocity (2 m/sec.)
- Quick settling
- Submicron precision
- Multi-axis platform
- Selectable travels:25,50,100,150 mm.



Building Blocks for Multi-Axis Systems

onexia.com/parker

The Parker "400XR" linear positioners are designed for building XY and XYZ table combinations.

The modular compatibility and quick delivery make them the perfect cost-effective solution to your multi-axis systems.

PARKER 400XR

- 24/7 operation at 100% duty
- IP30 rated protective strip seals
- Travels up to 2 meters
- Full range of sizes from 90mm to 285mm wide



Top of the Line Precision Positioning Products

onexia.com/nsk

NSK is an industry leader in precision machine components including ball screws, linear guides, monocarriers and direct drive motors designed for the toughest applications.

BALL SCREWS

NSK offers a large selection of miniature to ultra-large screws for machine tools, general machinery as well as for use under special environments.

LINEAR GUIDES

NSK has a diverse series of linear guides with special coatings, lubricants, accuracies, and custom designs available.



MONOCARRIERS

NSK monocarriers feature a single-axis design that includes ball screws, linear guides, and support bearings.



GUIDES, BALL SCREWS, AND MONOCARRIERS

Precision mechanical components that convert rotary to linear motion. Available in a wide-range of sizes and used to provide and support linear motion in machines.

PRECISION POSITIONERS

Linear tables designed to move and position loads, with either linear or rotary motion. Usually powered by a stepping or brushless servo motor which can be either rotary or linear and with sub-micron repeatability options.

ROBOTICS

onexia.com/robotics

Our diverse offering of robots provides our customers with the technology needed to automate their processes efficiently. We offer complete integration and training services with every robot to ensure the project is a total success.

An Intelligent Robot for Every Application

onexia.com/adept

Omron Adept's unique combination of software and control architecture addresses factory automation challenges.

VIPER (ARTICULATED ARM)

The speed an precision of the Adept Viper six-axis robots make them ideal for operations requiring fast and precise automation.

SYSMAC (DELTA ROBOT)

The Sysmac Delta can achieve up to 200 cycles per minute and can be synchronized with conveyors for pick and place applications.

ECOBRA (SCARA)

The eCobra Series offers a compact system footprint, saving valuable space while minimizing installation costs and complexity.



OMRON adept

Fast, Repeatable & Accurate Robots with Payloads from 6 kg to 650 kg

onexia.com/comau

Technologically advanced, reliable, and flexible, Comau guarantees optimal performance across the entire robot range. Their robotic arms are perfect solutions for robotized cells and process integrated solutions. Comau offers a variety of innovative, articulated and SCARA robots covering a large number of models.



ARTICULATED ROBOTS (6 AXIS ROBOTS)

Articulated Robots are 6 axis robot arms that offer high-speed precision. Available in varying sizes, these versatile robots are designed for applications where precision is essential and where a high payload is needed.

AUTONOMOUS MOBILE ROBOTS

Autonomous robots are intelligent machines capable of performing tasks in the world by themselves without explicit human control.

JExia Inc

Mobile Robots for Fulfillment Facilities

onexia.com/fetch-robotics

Fetch Robotics develops and manufactures collaborative, autonomous mobile robot solutions for the warehousing and intra-logistic markets.

AUTONOMOUS MOBILE ROBOTS

Fetch Robots don't require fixed paths or any facility modifications. They have the ability to plan optimal point-to-point travel while reasonably navigating their way around people and other obstacles.

- Fully configurable shelving for various bin, tote, and package sizes
- Optional touch screen with programmable interface



Vacuum Technology for Robotic Grippers

onexia.com/piab

Piab vacuum technology features an almost infinite selection of vacuum cups, generators, and pumps that can be easily configured to fit any application. Their cups and generators can be easily mounted to aluminum extrusion making Piab a cost-effective solution for end of arm tooling.

VACUUM PUMPS

- COAX technology the most energy efficient ejector technology
- Low weight, modular design

SUCTION CUPS

- Energy efficient options
- Sizes for any application
- Different styles for varying materials
- Modular design

GRIPPER SYSTEM (VGS)

- Three stage pump for high-speed applications
- Easy to install
- Flexible mounting options
- Interchangeable cups



Vacuum Solution for Large Products

onexia.com/piab

Piab's Kenos gripper is a flexible solution for the handling manipulation of several products with different shapes, dimensions and compactness. Kenos grippers are available in multiple sizes.

KENOS APPLICATIONS

- Various sacked products (ie. cement mix)
- Canned products (multiple per pick)
- Heavy stone & wood surfaces
- Food grade bagged products
- Flow pack operations



Vibration Feeders for Small Bulk Parts onexia.com/asyril

Asyril's award-winning series of Asycube flexible feeders offer high performance part feeding,

pre-orientation and optimal surface distribution of bulk parts and components.

ASYRIL ASYCUBE

- Compatible with all part geometries
- Minimum changeover
- Extremely gentle part handling
- Precise part detection
- Systematic part orientation
- Easy Configuration

asyríl

DELTA ROBOTS (PARALLEL ROBOT)

Delta robots are ceiling mounted and consist of three joint arms that connect at the tooling center point. These robots are often used in very high speed pick and place applications.

SCARA ROBOTS

A SCARA robot (selective compliance assembly robot arm) is slightly compliant in the X-Y direction but rigid in the 'Z' direction, hence the term: selective compliant.



UNIVERSAL ROBOTS

onexia.com/universal-robots

With a Universal Robots robot arm, you can automate and streamline repetitive or potentially unsafe processes, allowing staff to be assigned to jobs that provide them with new challenges.

UR 5 ROBOT ARM

• Payload: 5 kg / 11 lbs

• Radius: 800mm / 33.5 ins

• Weight: 18.4 kg / 40.6 lbs

• Footprint: 149 mm / 5.9 ins

Collaborative Robots

The collaborative robots, or "cobots" are categorized based on payload limits. The varying models also have reach, weight and footprint differences.

Universal Robots' has three models of "cobots" that are easily integrated into existing production environments.

With six articulation points and a wide scope of flexibility, the collaborative robot arms are designed to mimic the range of motion of a human arm.

UR 3 ROBOT ARM

- Radius: 500mm / 19.7 ins
- Payload: 3 kg / 6.6 lbs
- Weight: 11 kg / 24.3 lbs
- Footprint: 128 mm / 4.6 ins

Universal Robots Features

UR robots are packed with truly amazing benefits making them a game changer within the industrial and collaborative robot industry.

EASY PROGRAMMING

Patented technology lets operators with no programming experience quickly set up and operate the robots with intuitive, 3D visualization.

FAST SET UP

Universal Robots has revolutionized robot set-up, reducing typical robotic deployment measured to a matter of hours.

FLEXIBLE DEPLOYMENT

Moving the robot to new processes is fast and easy, giving you the agility to automate almost any manual task, including those with small batches or fast change-overs.

COLLABORATIVE AND SAFE ROBOTS

Human operators in dirty, dangerous, and dull jobs can be replaced to reduce repetitive strain and accidental injuries. Eighty percent of the UR robots operate with no guarding.

FASTEST PAYBACK IN THE ROBOT INDUSTRY

Universal Robots gives you all the advantages of advanced robotic automation, with none of the traditional added costs associated with programming, set-up, and dedicated/shielded work cells.



UR 10 ROBOT ARM

- Radius: 1300mm / 51.2 ins
- Payload: 10 kg / 22 lbs
- Weight: 28.9 kg / 63.7 lbs
- Footprint: 190 mm / 7.5 ins



EXCLUSIVE SERVICES PROVIDED BY ONEXIA

ONExia offers support on all levels to help our customers implement collaborative robots into their production lines and factory floors.

PRESALE GUIDANCE

- Proof of concept where actual parts are used to provide a video for the customer to review
- Detailed quotation of accessories needed

AFTER SALE SUPPORT

- Initial setup of robot
- On site training
- Warranty troubleshooting and repairs at your facility
- Additional accessories to ensure best throughput from the "cobot"

NExia Inc



Robotic CNC Machine Tending

onexia.com/universal-robots

Relieve your employees from ergonomically unfavorable, repetitive work, freeing them to do more important operations. A UR robot is the ideal solution for most CNC applications.

- Fast deployment and initial setup
- Easily reprogammed as processes change
- Low operation costs no safety devices need!
- Improved speed, precision, & reliability

VERSATILE TOOLING SOLUTIONS

By using a Robotiq Adaptive Gripper the same robot can open the door, load raw material, and unload machined parts.

By adding the plug and play Robotiq Camera there is no need for a jig or to carefully place parts. The camera allows for the robot's arm to know their position for easy picking and placing.

ROBOTIO onexia.com/robotig

Robotig offers Grippers, a Wrist Camera and Sensors that are flexible, easy to use, with quick setup and configuration in only a few minutes. The Robotiq products come in Plug + Play packages to integrate seamlessly with Universal Robots.





2-FINGER ADAPTIVE GRIPPER

The Robotig Adaptive Gripper is made for real manufacturing; use the same Gripper model for all automation cells in vour factory.

- 85 mm or 140 mm stroke
- Eliminate custom-made end effectors and tools.

WRIST CAMERA

Robotiq's Camera brings Plug + Play vision for Universal Robots.

- 5-minute setup time
- Simple object teaching interface
- Autonomous location of objects on work surface
- No coding required

ROBOTIQ

FORCE TORQUE SENSORS

Robotiq's Force Torque Sensors give your robot the sense of touch. By installing one on your robot, you'll be able to reliably perform the following tasks:

- Precision part insertion
- Assembly and fabrication
- Product testing



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DNExia Inc



LASER MARKING

onexia.com/laser-marking

Our laser marking solutions give you the ability to choose the solution that best fits your application based on performance and price. Our engineers can assist your selection of the correct marking solution.

Laser Markers for Most Industrial Materials

onexia.com/datalogic

The Datalogic laser marking product portfolio is focused on providing top value solutions for automotive, electronics, medical devices and high precision metal manufacturing.

Laser marking products are offered in the three main laser technologies: Fiber, DPSS and CO2 markers cover a wide range of applications on almost any material, fulfilling every customer's need for permanent marking.

Powerful, best-in-class control software operates with any model configurations and laser technologies. The unique HMI control platform makes it easy to use and install, with enhanced customization capabilities.



\$DATALOGIC



Ultra Compact, Fiber Laser Marker

onexia.com/datalogic

The Datalogic UniQ[™] laser marker does not need any "low-IP grade" external cabinet, controller or power supply. It is also totally free from delivery fiber constrains with regard to fiber length or bending radius.

DATALOGIC UNIQ

- Powerful 15W fiber laser source
- All-in-one, Fully integrated ultra compact device
- Rugged IP54 rated housing
- No external rack, power supply, other controller needed
- No fiber delivery constraints
- Built-in second generation EMC (Embedded Marking Controller)

MATERIALS

- Plastic and metal marking in automotive, electronic and healthcare industries
- Label marking
- DPM (Direct Part Marking)
- Tool marking

• Marking on surgical tools/devices

LASER MARKERS

Laser marking delivers an economical and effective solution for permanent labeling and individualization of every type of surface. It also withstands the most rugged conditions, guarantees backtracking over the entire product life cycle and assists in quality assurance and counterfeiting protection.

onexia.com

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High Peak Power Laser Markers

onexia.com/datalogic

The new Datalogic VLASE is a complete family of solid state laser marking products available in three different wavelengths: 1064, 532, 355 nm, with power up to 20 W.

DATALOGIC VLASE

- High peak power and short pulse width for excellent marking on a broad range of materials
- 3 or 5 meters detachable optical fiber
- Extremely easy to integrate and configure

MATERIALS

- Plastic and metal marking
- Label marking
- DPM (Direct Part Marking)
- Tool marking
- Marking on surgical tools/devices

OLATALOGIC



COLOUNTACO

Ultra-Compact Solid State Laser Marker

onexia.com/datalogic

Due to its cost-effective, innovative design, the Datalogic Ulyxe becomes the first choice in marking solutions by providing the best price/ performance for plastic and metal marking applications.

DATALOGIC AREX

- Active Q-switch and adjustable repetition rate
- Extreme compactness offering all the most advanced technological concepts
- Air cooled with ultra-compact design

MATERIALS

- Plastic and metal marking
- Tool marking
- Marking on surgical tools/devices





Industry Best Fiber Laser Marker

onexia.com/datalogic

With the smallest marking head footprint, The Datalogic AREX drastically simplifies design for system integrators, and makes mechanical installations extremely easy in all applications.

DATALOGIC AREX

- STAND-ALONE and MASTER-SLAVE mode
- 10W, 20W, 20W MOPA, 30W and 50W Fiber Laser
- Compact scanning head

MATERIALS

- High contrast DPM (Direct Part Marking) on plastic and metals
- Annealing & color marking on metals components
- Label replacement

The Perfect Solution for Medium Speed Applications

onexia.com/omron

The Omron MX-Z series of laser markers meet industry demands and provides high quality, permanent identification with scaling capabilities to add functionality to the process.

The MX-Z offers great flexibility in terms of marking, connectivity and easy integration to other systems or controls.

OMRON MX-Z

- Communications and control via EtherNet I/P, RS-232
- Color marking on stainless steel
- \bullet High resolution of 2 μm gives the ability to mark characters as small as 0.1 mm
- Imports and laser marks drawings (DXF) or JPG, BMP, PNG images

MATERIALS

- Metals: stainless steel, iron, aluminum, copper, gold, silver
- Synthetic materials: ABS, PBT, POM, PC, PP, PVC



MACHINE VISION

onexia.com/machine-vision

We offer hardware platforms that allow our customers to expand their range of machine vision applications. From the simplest cameras to the highest performance embedded processors, we can deliver a vision system optimized for your inspection needs.

Ultra Compact, Cost Effective Smart Camera

onexia.com/datalogic

The Datalogic P-Series is an ultra-compact cost effective smart camera offering advanced machine vision functionalities in a fully embedded stand-alone device.

DATALOGIC P-SERIES

- VGA (640x480) or 1.3 MP (1280x1024) resolution
- Built-in digital I/Os, Serial and Ethernet interfaces
- Grayscale or color CMOS image sensor
- Right-angle IP67 rated enclosure with rotating connectors



\$DATALOGIC

Vision Processors for Multi-Camera Support

onexia.com/datalogic

Datalogic Vision Processors provide the highest performance in image processing with even more flexibility through multi-camera support.

MX-U SERIES

- Intel multi-core chip sets
- USB 3.0 ports
- Windows Embedded Standard 7

MX-E SERIES

- GigE Vision standard camera connectivity
- Windows Embedded Standard 7
- Impact Software Suite

M-SERIES CAMERAS

- Small form factor for constrained locations
- VGA to 5MP resolution
- Power over Ethernet

IMPACT SOFTWARE

- Drag & drop user interface
- Provides real time parameter changes of cameras

OMRON

Clear Imaging Quality and Advanced Processing Tools

onexia.com/omron

The FQ2 vision sensor family is set to redefine the vision sensor market, providing advanced inspection, code reading and verification that was only previously available in higher end vision systems.

With over 100 camera options, the FQ2 provides users with the ultimate flexibility to solve a variety of applications.

OMRON FQ2 VISION SYSTEM

- Real color sensing 16.7M colors
- Integrated high-power lighting
- High-dynamic-range (HDR) sensing
- Polarizing filter attachment

INDUSTRIAL CAMERAS / PROCESSORS

Industrial cameras and processors are highly programmable and can include multiple cameras, barcode readers, and sensors in one system for very intense vision applications.

SENSORS

Used to detect presence, level, dimensions, or other characteristics of an object. Types are available to sense metallic and non-metallic objects and can interface to meters, PLCs, computers, and other devices.





Image-Based Barcode Readers

onexia.com/datalogic

Datalogic offers a wide range of high performance 2D imagers for industrial applications.

MATRIX 210N

- Ultra-fast image acquisition for high speed production lines
- Ethernet, PROFINET, EtherNet/IP, interfaces

MATRIX 300N

- High performance DPM reading
- Power over Ethernet Option

MATRIX 410N

- Single reading point or multiple device in cluster, through simple configuration
- Embedded Ethernet connectivity, with common protocol support
 - **COLATALOGIC**

Industrial Handheld Scanners

onexia.com/datalogic

The PowerScan 7100 is the Datalogic's value line of rugged, industrial, handheld data collection products. The linear imaging corded reader combines rugged durability and extremely snappy reading performance at an affordable price.

POWERSCAN PD7100

- Fastest speed-to-read 390 scans/second
- Drop resistance to 2.0 m / 6.5 ft
- Water and particulate sealing rating: IP65
- Built-in multiple interface (RS-232, Keyboard Wedge and USB)



COLOUATACOCIC

SENSORS

onexia.com/sensors

Our offering of sensors range from simple, cost-effective options to rugged and resistant styles for harsh applications. The ONExia team can assist in selecting the correct sensors for your applications.

General Purpose Sensor

onexia.com/omron

The Omron E3Z photoelectric sensors come in a compact and high-powered LED for excellent performance-size ratio. They also offer the best value-performance ratio for standard applications.

OMRON EZ3 SENSOR

- Minimal optical axis deviation for easy alignment
- IP67 and IP69K for highest water resistance
- Intensive shielding for highest noise immunity (EMC)
- Multiple molding housing for high mechanical resistance



Sensors With Increased Ranges

onexia.com/omron

Omron proximity sensors are designed and tested to ensure a long service life and achieve maximum machine availability even in the harshest environments.

OMRON E2A SENSORS

- DC 3-Wire, DC 4-Wire (NO+NC)
- Popular in Food/Beverage, Bottling, and Packaging industries
- Extended (double) sensing distance
- IP67 and IP69K for wash down resistance
- Standard or long body length

OMRON E2E SENSORS

- DC 2-wire, DC 3-wire, AC/DC 2-wire, and AC 2-wire versions available
- IP67 and IP69K rated
- Flush mountable shielded versions
- Built-in circuit protection



SMART CAMERAS

Programmable vision systems that provide high-resolution and high-performance for part inspection, quality verification, robot guidance, part presence verification, part position, and part orientation.

VISION SENSORS

Low-cost camera systems developed to satisfy the requirements of part presence verification, object counting, measurement, part position, quality inspection, and identification.



INDUSTRIAL NETWORKING

onexia.com/industrial-networking

ONExia provides comprehensive system integration, hardware, software, and customer-centric design services to connect your automation processes to the "internet of things" for increased productivity and throughput.

Open Embedded Automation Computers for Any Application

onexia.com/advantech

Advantech offers a complete range of embedded automation computers with each series coming in three sizes. All models offer flexibility using iDoor Technology which allows them to be configured specifically to the application.

• Wide range of CPU; AMD, Intel Atom &

UNO-100

- Din-rail mountable
- I/O & data storage capable
- Safe to operate in hazardous locations
- Core 1 Processors

UNO-200

- Various mounting options
 - Fanless design

ting options

Wall mount ready

UNO-300

- Ideal for control cabinets
- PCI expansion allows users to add 3rd party modules

Configure I/O Requirements Using iDoor Technology

Advantech's new iDoor Technology utilize the mini PCIe format. By standardizing the modules and interfaces, iDoor gives users the ability to configure I/O requirements based on the application.

IDOOR MODULES

- Fieldbus protocols
- Digital, analog, & expandable I/O
- Smart Sensor
- Communication & memory





High Performance, Secure Switches

onexia.com/advantech

The Advantech EKI-2748FI and EKI-2748CI Switches support Gigabit with Ethernet and SFP/Combo ports.

To enhance reliability in industrial communication network, it's equipped with the Advantech owned redundant network protocol X-Ring Pro. This network provides users with an easy way to establish a redundant Ethernet system with ultra high-speed recovery time less than 20 ms.

Machine-to-Machine I/O Modules - Join the "Internet of Things"

onexia.com/advantech

The Advantech ADAM I/O Modules provide remote I/O connectivity from RS-485, Ethernet, and wireless sensor networks.

The ADAM I/O Modules allow the user to monitor and manage field sites easily - the site status can be identified, tracked and altered remotely.



COMMUNICATION SWITCHES

Available in wired or wireless communication options, industrial switches can transfer large amounts of data in a secure environment.

DISTRIBUTED I/O MODULES

Machine-to-machine I/O connectivity provides the ability to monitor, track, and alter field sites remotely in a real-time environment.

ONExia Inc



Cost Effective HMI Designed for the PAC Controller onexia.com/parker

The Parker PAC Terminal (PT) is a thin client HMI developed to work seamlessly with the Parker Automation Controller (PAC).

With the PAC handling the control and HMI logic, the PT is responsible for displaying the embedded HMI as well as sending touch screen input from the user back to the PAC.

PARKER PAC TERMINAL

- 7, 10.1, 15.6 16:9 wide-screen option
- Analog-resistive touch technology
- Running Android with the PAC Terminal App
- Thin-client for the PAC controller and
- Parker XT Xpress Terminal stand-alone HMI



Parker PAC Controller

HUMAN MACHINE INTERFACES

onexia.com/hmi

Our offering of human machine interfaces (HMIs) range from standalone monitors to full touchscreen PCs designed to fit your automation application.

The Next Generation of Machine Interface

onexia.com/omron

With the ever present need for increased performance, the NA family of HMI terminals makes it fast and easy to implement dynamic intuitive user interfaces that will boost productivity and minimize downtime.

OMRON NA SERIES

- Complete functionality scalable with wide screen across 7", 9", 12", 15" range
- Available in black or silver
- High resolution (1280 × 800 pixel for 12" and 15", 800 × 480 pixel for 7" and 9")

HMI's Running Intuitive Software

onexia.com/parker

The new IX - InteractX Terminal from Parker features all new external designs and is backed by the user-friendly InteractX Software.

PARKER IX POWERSTATION

- Slim 1.3" cabinet depth
- Fanless & ventless
- 32GB SSD, 1.86GHz Quad Core, 4GB
- Windows Standard Embedded 7



Real-Time Information on any Monitor

The headless Parker Factory Display turns any TV or monitor into a real-time display of production statuses, OEE data, safety policies, or company

announcements.

PARKER FACTORY DISPLAY

- Connect to any display
- Move information around or off the plant floor
- HD image quality
- Fanless & ventless
- 1.86 GHz Quad Core, 4GB DDR
- 2 USB, 2 serial, 2 LAN ports





EMBEDDED CONTROLLERS

Embedded controllers are industrial PCs that have full computing capabilities in a small-form factor. They are fanless and din-rail mountable making them an ideal solution when energy or space is a factor.

HUMAN MACHINE INTERFACES (HMI)

The HMI acts as a communication bridge between the machine and the user. HMIs can be a standalone monitor or a full touchscreen PC.



MACHINE SAFETY

onexia.com/machine-safety

We offer a complete line of machine safety products designed to keep your automation processes safe and up to date with the latest safety standards.

Complete Machine Safety Solutions

onexia.com/omron

The most challenging applications to ensure safety are those where personnel are required to access areas where potentially hazardous operations take place, such as machining, welding, movement of a robot arm, etc. Omron Sti safety devices offer the maximum safety with the minimum impact on machine operations at the lowest possible cost.



1. SAFETY DOOR SWITCHES

Omron D4SL-N Safety Door Switch

- Key holding force of 1,300 N.
- Slide key prevents entrapment
- Removable terminal block for easy wiring
- Metal operation head for durability



4. SAFETY LIGHT CURTAINS

Omron F3SG-RA Safety Light Curtains

- IP67 rated housing
- Slim profile of 35x35 mm
- Fast response time of 8ms



2. SAFETY SCANNERS

Omron OS32C Safety Scanner

- Type 3 Safety Laser Scanner
- Safety zone up to 4 meters
- Warning zones up to 15 meters



5. SAFETY MATS

Omron UMQ Series Safety Mats

- Fork lift traffic of 270 lbs. per square inch
- IP67 rated
- Single-piece molded construction



3. SAFETY CONTROLLERS Omron NX Series Safety I/O System

• Directly integrates to Omron systems

- Safety over EtherCAT
- Modular I/O system with up 256 or 1024 I/O



6. FORCE-GUIDED RELAYS

Omron G7S-_-E Relay Family

- Forcibly guided contacts
- Conforms to EN 50205
- Reinforced insulation between I/O

ALUMINUM FRAMING

High-strength aluminum framing is today's material of choice for assembling an unlimited variety of industrial structures. Products include both metric and inch profiles.

MACHINE SAFETY DEVICES

Machine safety devices help protect humans from harm within a manufacturing process. All machine safety devices are up to date with the most current safety regulations.



Flexible Mounting Solutions

onexia.com/swivel-link

Sold in both kits and single parts, Swivellink is simple to mount and safer than hard mounting to the frame.

All connections and cables are easily run through the center of the mount. making for a clean look that also protects the device.

APPLICATIONS & FEATURES

- Applications include: vision system, HMI & E-stop mounting
- Works with all major brands: Basler, Contrinex, Cognex, Datalogic, Keyence, Omron, Piab, etc.





CONVEYOR FEATURES

Light to medium duty applications

Custom Solution - Conveyor in a Box

that has been designed to make building a conveyor

concept allows you to solve your unique problem with

The Swivellink Conveyor is a unique new product

fast and easy. This revolutionary "build your own"

- Conveyor width sizes from 1.5" to 9" wide in 1.5" increments
- Motor plate is designed to work with Baldor & Oriental motors
- Adjustable leg height

onexia.com/swivel-link

4 easy steps.



ALUMINUM FRAMING

onexia.com/aluminum-framing

T-Slot aluminum framing can be used in many industrial applications where welded steel is not an option. The sleek design and simple assembly makes it the go-to solution for your application.

Save Fabrication Time & rework Expenses with Parker IPS

onexia.com/parker

Parker IPS comes in over 100 profiles that are made of high-strength, aircraft grade aluminum. Accompanied by a complete line of fasteners and accessories, IPS is a top solution for modular frame guarding solutions.

IPS APPLICATIONS

- Machine bases & frames
- Stands
- Guard assemblies
- Material handling fixtures

• Safe guarding

- Robot safety fencing
- Tooling supports
- Custom work stations



Parker IPS Design Center

onexia.com/parker

Parker's IPS software allows us to take your idea (at whatever level of development) and quickly create 3-D CAD drawings, full specifications and complete quotes. With our large inventory on hand, many orders can ship in as little as one day.

CONCEPT

Using Parker's IPS software we can turn your idea into a custom solution.



SPEC

We can quickly create a CAD drawing, full specifications, and complete quotes.

DONE

With our inventory on hand, many orders can ship in as little as 1 business day.





CUSTOM MACHINES

onexia.com/custommachines

ONExia is a proven expert at providing motion control and positioning products for machine automation applications. That same expertise can be applied to designing, engineering, constructing, and programming complete machine controls or turn-key machines.

Complete Custom Machine Services

Every day we assist companies like yours in developing a concept, writing specifications and implementing new technologies.

CUSTOM SOLUTIONS PROVIDED

- Complete turn-key solutions
- Engineering services
- PC based solutions
- Custom assemblies
- Inspection automation
- Motion control technology
- Database interaction



- Circuit board design
- Motor sizing
 Mechanical design
- Vision inspection
- Motion & PLC programming
 Visual basic programming
- HMI programming



Contract Manufacturing with ONExia

Our project engineers provide unparalleled expertise assisting our OEM customers develop and implement new technologies in their machinery.

We can collaborate on a revision to your existing design, or provide complete design, documentation and fabrication services.

SERVICES PROVIDED

- 3D modeling & design
- Custom circuit board design
- Custom enclosure design
- Kitting
- Testing
- Machining
- Powder coating
- Custom cables
- Aluminum framing kits
- Motor/gearbox assembly
- Multi-axis positioning
- Assembly
- Build to print
- Custom software





Machine Design Process

Our process ensures success by working directly with the customer through the entire build.

1.INITIAL CONCEPT/BUDGET

- We work closely with the customer prior to their developing a specification and/or RFQ. Specification Development Proposal Development
- Determine the requirements and sequence of an assembly process.

2. KICK-OFF MEETING

Introduction

Introduce the ONExia project team to the customer's team. Review

Review the proposal, concept, and customer's statement of work.

Inspection

Site inspection of the machine's final location to determine special limitations.

Schedule

A formal project schedule is presented to and reviewed with the customer.

3. DESIGN

ONExia's project team begins design of the machine starting with prototyping. Prototyping Preliminary Design Review

If any phases or aspects of the machine were deemed necessary for early phase prototyping, they are reviewed.

4. DESIGN REVIEW

A formal review with the entire customer's team reviewing the details of the project.

- 3D Model of the Machine
- Panel Layout & Electrical Schematic
- Machine Sequence
- Software Screenshots
 Technical Aspects, Tooling
- Iechnical Aspects, Iool
 Safety Review
- Final Acceptance Criteria

5. MACHINE ASSEMBLY

- Detailed Part Design
- Fabrication DrawingsPanel Layout & Wiring Schematics
- Panel Layout & Wiring Schema
 Part Fabrication
- Machine Assembly
- On-Machine Wiring

Software Development

- MACHINE TESTING
 Machine Debug
 - Pre-FAT Testing
 - Acceptance Testing
 - Machine Clean Up
 - As-Built Drawings

SHIPMENT



require customer review are scheduled. DESIGN COMPLETION







- ir developing a specification and/or RFQ. **Proposal Development** Answer the specification by providing a statement of work and formal request for
- quote piece by piece.

Acceptance Criteria

Technical Review

DESIGN BEGINS

possible prototyping.

are met

Samples

An initial criteria based on project

statement is given to show expectations

Identify areas of technical concern for

Parts for design, prototyping feeder

selection and machine programming.

ONExia Inc

Palletizing Gantry Using a Kenos Gripper

Using the products we distribute, our Custom Machine Integration engineers built a custom gantry using the new Kenos Gripper from Piab for an overhead gantry palletizer.

The overhead gantry was tested at our facility where it was broken down and delivered to the customer.

PRODUCTS USED

- Piab Kenos Gripper
- Parker Actuators
- Parker Servo Motors

Videos available at onexia.com



- Omron Sti Safety Scanners
- Parker IPS Framing





Robotic Cell Integration

Our engineering team is experienced in creating robotic work cells for a wide variety of applications.

From custom grippers to complete turn-key solutions, we can help improve the efficiency and through-put of your inspection and manufacturing processes.



Build-to-Print Services

Our team of engineers and skilled technicians are the solution to your in-house custom machine project.

We will take your completed machine design and build the finished product to your specification while working directly with you and your team throughout entire process.





Why Choose ONExia?

ONExia offers many value-added services, solutions, and support that make us the ideal partner for your next custom automation project.

EXPECT THE BEST

Our success is based off of your success. We work with your team to define what the acceptance criteria will be so we understand your expectations.

EXTENSION OF YOUR ENGINEERING STAFF

We give your company the ability to have custom machines built by taking advantage of our engineering staff.



ABOVE & BEYOND OTHER INTEGRATORS

We distribute what we use in our machines, giving us reduced risk and eliminating a learning curve. We also have over 25 years experience on designing custom machines.

GOING THE EXTRA STEP

We take pride in our builds and have the internal design, fabrication, and powder coat capabilities to ensure a timely finish. All of our machines are labeled in detail and come with complete documentation upon acceptance and delivery.

ENGINEERING RESOURCES

Diagrams and articles to assist you with choosing the correct component for your application. If you are still unsure, let our engineers do the work for you. Contact us today for sizing, quotes, and integration services.

Steppers have the inherent ability to

and to hold position at rest without

the need for a feedback device.

divide a revolution into discrete steps

Single Axis Control





Controller



Amplifie

Actuator **Multi-Axis Control System**



wired with controller, drives & I/O

Multi-Axis Drive System





Actuator

onexia.com

Controller & Drive

COMMON APPLICATIONS • Point to point moves • Precision positioning **ADVANTAGES**

Stepper Vs. Servo

STEPPER MOTORS

• High acceleration

- High torque
- Stable at rest
- Lower cost than brushless servo
- Excellent repeatability

BRUSHLESS SERVO MOTORS

Constructed with windings in outer portion of motor and magnets attached to rotor. Location of windings provides shorter path for heat to escape.

COMMON APPLICATIONS

- High speeds, acceleration
- Changing loads
- Clamping, pressing
- Advantages
- Closed loop control
- Highest torque at high speeds Windings

Motion Control Calculations

Two common motion profiles that relate velocity to time are the trapezoidal and triangular motion profiles. They serve as good starting points for calculating motion parameters and thrusts. Determine the required velocities and accelerations for the application.

TRAPEZOIDAL MOTION PROFILE

Velocity=(1.5 x Distance)/Time Acceleration=(4.5 x Distance/Time²



Rotary to Linear Conversion

Linear motion systems driven by rotating electric motors commonly employ one of three rotary-to-linear conversion systems: ballscrew. acme screw or belt drive.

LEAD SCREW

Screw-drive mechanisms, whether acme screw or ballscrew, provide high thrust (to thousands of pounds) but are often limited by critical speed, maximum recirculation speed of ball nut circuits, or sliding friction of acme nut systems.

BALL SCREW

• High efficiency, low friction • High duty cycle



(less than 50%) • Long life, low wear

ACME SCREW

- The ability to hold position while motor is off





Rotor

Stator

TRIANGULAR MOTION PROFILE

Velocity=(2 x Distance)/Time Acceleration=(4 x Distance/Time²



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