Intelligent Automation Solutions

Reliance Automation

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Ball Slides, Actuators, Cage Ball Technology and Ball Screws

Cage Ball Technology
- Quiet operation that minimises metal to metal contact.
- Orderly ball movement.
- Original cage structure exhibiting excellent high-speed performance.
- Grease holding structure (consecutive grease pockets) for long-term, maintenance-free operation, long service life.

THK Linear LM Guides
- Huge range of slides available from stock.
- Lightweight, compact, miniature and extra wide series linear guides available.
- Operates with very low rolling resistance.
- Excels in high-speed responsive performance due to its very small frictional value and low inertia.
- 2D and 3D cad models available.

Ball Screws
- Large range of precision ground and rolled ball screws available from stock.
- High-efficiency method of converting rotary motion to linear motion by using a recirculating ball mechanism between the screw shaft and the nut.
- 1/3 drive torque compared with a conventional sliding screw.
- 2D and 3D cad models available.

Actuators
GLM Series Linear Motor
- High speed – can achieve maximum speed of 4 m/s.
- High acceleration/deceleration, superb conformity.
- High precision.
- Long stroke.
- Multi sliders.
- Clean & quiet operation.

Low Cost Actuators
- Actuator Model VLA is offered in two types; slider type and rod type.
- Low price with simple structure.
- Long term maintenance free operation.
- Eco friendly & highly energy efficient.
- 2D and 3D cad models available.

THK Actuator Range – Available from Reliance with matching servo packs
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MZ Series – Compact High Performance Robot.
- Number of controlled axes: 6 axes.
- Payload up to 7Kgs.
- 4 different main models – reaches of 541mm, 723mm, 913mm, 1102mm.
- Repeatability ±0.02mm or ±0.03mm (depending on series).
- Floor mount / Tilt mount / inverted.
- Hollow Wrist on 6th axis to allow for neat cable management.
- Robot is IP67.
- Cleanliness ISO class 4.

MC Series – Multipurpose Robot
Ideal for palletising applications
- Number of controlled axes: 6 axes.
- Payload capacity: 10Kgs – 70Kgs.
- Maximum reach 1400mm – 2050mm.
- Repeatability ±0.06mm.
- Floor mount or inverted mount.
- Smart cable routing in hollow wrist.
- Robot is IP65.
- Specific palletising software available.

MR Series – Flexible Motion robot with 7-axes
- Number of controlled axes: 7 axes.
- Payload capacity: 20Kgs – 50Kgs.
- Maximum reach 1260mm – 2050mm.
- Repeatability ±0.06mm.
- Floor mount or inverted mount.
- Robot is IP65 with option of full IP67 on MC35-70.

Controllers, software, remote monitoring units and more also available. All robots meet Safety Category 3 but when specified with the optional remote monitoring unit, they can meet safety category 4.

MC70 Nachi Robot being tested before installation in a Co-op in West Cork. NACHI have special palletising software to make programming very fast and easy.
Single Axis Actuators
The IAI single-axis robots are highly rigid actuators, usually equipped with ball screw, linear guide and AC servo motor. They work with a max. repeatability of ± 0.01 mm.

ISB Series
- Servo Motor Driven, Ballscrew Actuators with Incremental or Absolute Encoder option.
- Dustproof & Cleanroom compatible options available.
- Precision type repeatability of ± 0.005 mm.
- SSPA type steel base units available for ultra rigidity.
- Strokes up to 3 metres, speeds of up to 2500mm/sec and accel of up to 1.2g.

IF Series
- High speed Timing belt actuators.

NS Series
- Nut Rotation Actuator.
- Multi-Slider option available.

Robo-Cylinder Range
The ROBO Cylinder® electric actuator range are a flexible, intelligent, and economical, ballscrew driven alternative to pneumatic cylinders, both rod and rod-less types. Their advantages include, multi-positioning, programmable control over speed, accel and decel as well as torque and superb positional accuracy. Features also include long life, low power consumption and there is no need for limit switches.

RCP5
The RCP5 series actuator with battery-less absolute encoder, realising the convenience of an absolute encoder along with the cost & simplicity of an incremental encoder.

IK Series Multi-Axis Cartesian System
- The multi-axes solution to your automation needs. In addition to easy setup and simple software programming, IAI’s high-quality electric actuators are energy efficient and will dramatically reduce your energy bills.
- Wide Variation – line up offers many variations and can be easily integrated and prepared to your specific needs.
- Motor Options – IK series is offered in both pulse & servo motors.
- Easy Assembly - ROBO Cylinder IK Series multi-axes kit includes everything needed for fast and easy assembly.
- High Functionality - Combined with the PCON, PSEL, SCON, SSEL, XSEL controllers, complex programming is made easy.
- Quality & Innovation.

IAI Controllers feature
- Support for major field networks
  - EtherNet/IP
  - DeviceNet
  - Profinet
  - Mechatrolink

Network Specification Features
- Up to 256 positioning points per each axis
- Allows designation of position and speed navigation numerically
- Ability to verify current position in real-time
- Supports both the pulse motor and the servo motors
- Almost all IAI products can be driven directly using Pulsetrain (just as driving any servo motor)
Robots
PowerCON SCARA Robot IXP Series
- All models come standard with battery-less absolute encoders.
- IXP costs around ½ conventional models.
- Lighter than conventional models.
- The regular cycle time is about 60% shorter than conventional Cartesian robots.
- Added 3-axis specification and 4-axis gripper specification.
- Equipped with optimal speed and acceleration/deceleration settings.

TTA Series Tabletop Robot
Improved tabletop robot for cell production applications, featuring significantly higher payload, maximum speed and rigidity! Three times as many I/O points as conventional models and more variations!
- Significantly higher payload and maximum speed.
- Larger memory stores more programs and positions.
- 3 times as many I/O points as conventional models (up to 48 input and output points).
- 8 variety types for various operation range.
- Dedicated ZR Axis now available.

MSEP Controller
- Compact Design
- A successfully designed 8-axis compact controller measuring only 123mm x 115mm, saving you space within controller cabinet.
- Supports major field networks – allows direct connection with major fields networks.

DD Direct Drive motor
High speed, high payload, high accuracy
- Latest addition to series High torque type, large hollow bore type.
- High torque, high payload.
- High speed, high acceleration/deceleration.
- High resolution type now available.
- Index absolute type or multi-rotation absolute type can be selected.
Linear Slides and Other Machine Build Elements

A wide range of both linear and rotary machine elements available

- Many items in the INA range are unique to INA.
- Large range of both Ball and Roller Monorail Guidance Systems.
- Track Roller Monorail Guidance Systems.
- Huge range of track rollers and cam followers available.
- Mechanical actuator range available from small single axis to large multi axis linear tables.
- Both miniature and standard range of linear slides available from stock and cut to order, they include INA KWEM 7, 9 12 and 15 INA KWVE 15, 20 and 25.

NB offers a wide range of linear motion products to fulfil our customer’s requirements.

- **The NB SLIDE GUIDE** is a high-precision and high-rigidity linear guide designed to utilise the motion of rolling elements. They have numerous advantageous characteristics including low friction, no stick/slip, and smooth linear motion even under high load conditions.

- **The NB ACTUATOR** is a compact single axis linear actuator which integrates a slide guide and precision ball screw. BG type offers compact dimensions and outperforms conventional positioning tables. This is made possible by a unique “U” shaped guide rail and slide block which provides multiple functions of a guide block and a ball screw nut combined into a single unit. These can also be supplied with matching servo packs.

- **The NB SLIDE BUSH** is a Linear Ball Bushing with the mechanism utilising the re-circulating motion of ball elements. This consists of the outer cylinder and a ball retainer that guide the circulation of the ball elements, resulting in smooth linear motion.

- **The NB BALL SPLINE** is a linear motion mechanism utilising the recirculating motion of ball elements. It can be used in a wide variety of applications including robotics and transport type equipment.

- **The NB ROTARY BALL SPLINE** can be used for both rotational and linear motion. It can be used in SCARA robots, the vertical shaft of assembly equipment, and tool changers and loaders.

Reliance Automation Solutions
Inverters

Invertek New Optidrive E3 General Purpose Inverters are a perfect combination of high performance and ease of use for all Motor types

- Built in Category 1 EMC Filter.
- Intuitive Keypad.
- Sensorless Vector Control for Induction Motors, AC Permanent Magnet Motors, Brushless DC Motors and Synchronous Reluctance Motors.
- Dual Analogue inputs.
- Internal Brake Chopper as standard.
- Available in IP20 up to 22kW and IP66 up to 7.5kW. Dedicated HVAC and P2 Systems Inverters also available suitable for a wide range of motor powers.

Gear Boxes

- Reliance offer a wide range of TEC Aluminium and Cast Iron Housing Right Angle Single Reduction Worm Gearboxes and Bevel Helical Gearboxes.
- TEC Gearboxes are interchangeable with many of the popular gearbox brands on the market.
- FCNDK Series Worm Gearboxes with Bores from 11mm to 50mm. Ratio’s from 5:1 to 100:1 as standard, larger ratio’s available with combination units.
- WK Series Bevel Helical Gearboxes with Bores from 24mm up. Ratio’s from 8:1 up.
Reliance is the Irish authorised distributor for Optibelt standard and special belt products. Optibelt is the world leading manufacturer of industrial linear belting technology offering superior quality, best in class technology/materials, shorter lead times and value for money.

- All types of linear belting available, with a wide range of backings.
- Truly endless or joined options.
- Conveyor belts also available, made to order, tracked type etc.

**Couplings**

Huge range of couplings available to suit all types of servo and stepper motor applications

- Types and features include - Zero backlash, High Gain, High Torque, High Rigidity, Vibration Absorption and Cleanroom types available.
- 2D and 3D cad models available.

**Linkages & FYH Housed Bearings**

- Reliance is the preferred distribution partner for Dunlop BTL Linkages and FYH Housed Bearing Units.
- Full Range of Dunlop BTL Linkage products and FYH Housed Bearings, is available from stock.
- Rod Ends, Spherical Plain Bearings, along with Ball Joints and Clevises, are available as individual components or can be supplied as part of a rod based motion transfer linkage assembly.

**Reliance Automation**

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