



**LEADERSHIP  
DRIVEN BY  
PARTNERSHIP**



## ESTABLISHED IN 1965

Lubi Group is one of the India's leading business enterprises. Established in 1965, the group has grown to become a popular brand in **Pumps & Motors, Automation, and Solar technologies.**

“ We are committed in generating growth by meeting customer demand. Such growth is only possible by collaborating different business units within the organization to deliver the globally challenging customer demand.

**“Deliver right products, Services and support at an affordable price”.**

Our aim is to steadily and consistently enlarge our earning base created on our strong track record for more than five decades of Industrial experience. This was made to happen by concentrated actions from the management, by identifying right partner, Key business process, Investment in resources and the most important to implement the right strategy to market the products and services in the growing Industrial sectors.

”



AUTOMATION &  
SYSTEM INTEGRATION



PUMPS & MOTOR



SOLAR



## OUR STATE-OF-THE-ART PLANTS

The group's vision has always been to ensure progressive and sustainable development for all its stakeholders including customers, employees and society. As we cross new frontiers of development, we show our commitment in all the business activities.



NARODA, AHMEDABAD



VADSAR, AHMEDABAD



KADADARA, DEHGAM



PRANTIYA, GANDHINAGAR



# TRUSTED PARTNER FOR TOTAL INDUSTRIAL AUTOMATION

Lubi Electronics is enabling businesses to enhance efficiency of processes, improve productivity and optimize ROI by delivering turnkey automation and integrated solution.



**9000+**  
**Part Code of  
Stock Item**

**250+**  
**Professional  
Engineers**

**70+**  
**Product  
Verticals**

**Presence in 24 States of India**

Lubi Electronics is a leading company in industrial automation and electronics with 20+ years of expertise. We have a robust infrastructure, full-fledged capacity and pan India presence to supply, integrate, commission and test a wide range of automation products anywhere across India.

# VISION

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To create unmatched value in distribution, system integration and electronics manufacturing of automation products.

# MISSION

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To provide value added engineering solutions for our industrial automation products and manufacture highest quality electronics products used in industrial application.

To develop innovative and efficient business processes.

To implement excellent health & safety standards, welfare activities, and offer growth opportunities by developing people competencies.

# VALUES THAT PROPEL US FORWARD

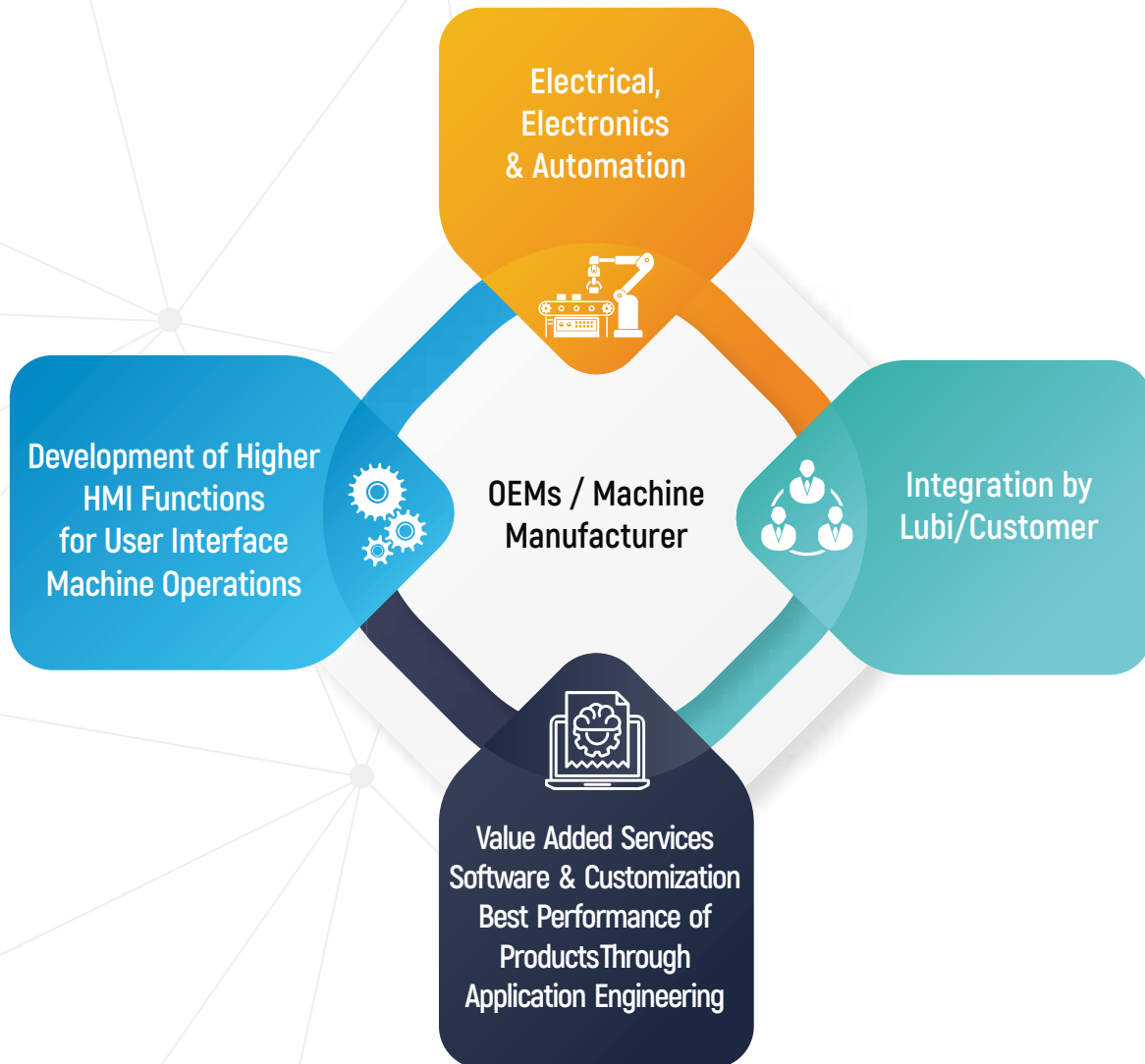
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- Our people are our greatest asset.
- Passion fuels our ambition.
- We exhibit highest level of integrity.
- We have mutual respect for everyone.
- We create strategic partnerships.
- We work together in a team to achieve a common goal.



# WHAT WE DO

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We provide you single window solution for implementing most efficient industrial automation products & services.

- We co-operate & partner with globally reputed manufacturing companies who are focused in automation industry.
- We trade/distribute products across India.
- We integrate products we have sold and also co-work with 3rd party products to provide complete solution.

Our team has expertise to implement automation with total control and safety in even the most complex and challenging applications. Our streamlined implementation of automation boosts productivity and ROI while reducing down time and maintenance.

# 20+ YEARS OF AUTOMATION INDUSTRY EXPERIENCE

- It is symbol of growth.
- It makes us think with optimism.
- It creates betterment & synergy.

Our company creed has implemented "Go with the Change" & devised strategies & plans for the benefit of everyone.

## "Market Challenge"

We observed that the market is fragmented and every customer with their unique geographical location & expertise has given us challenging task to prove its application & process.

Market is behaving very dynamically. Every industrial sector like textile, plastic machine tool, packaging, printing is making radical changes to empower customers.

Our sales & support team build over two decades of experience has closely matched pace with such changes at the customer end to fulfil their automation requirements by offering highest quality "Components, System Integration & Solutions".

Over the years, we have built **8000** sq. meters of cutting-edge infrastructure and served over **4000** customers. Our success path defines & adopts continual change program internally so that business processes are seamlessly integrated.



# PARTNERS FOR GLOBAL COMPANIES



Page No: 18

- AC Drive
- PLC
- HMI/MMI
- AC Servo System
- Temperature Controller
- Counter/Timer/Tachometer
- Communication Module
- Rotary Encoder

Since 1998



Taiwan



Page No: 36

- AC Servo System
- AC Gear Motor
- Brushless Motor
- Sensors
- Vision System
- Laser Marker

Since 2000



Japan



Page No: 48

- CNC Controller

Since 2005



Taiwan



Page No: 54

- Speed Reducer
- Flexwave
- Coronex

Since 2006



Japan



Page No: 62

- Motion Controller

Since 2011



UK



Page No: 70

- Energy Saving System for IMM
- Position Transducer-GEFRAN
- Injection Molding Machine Controller
- Hydraulic Pump
- Pressure Transducer-GEFRAN

Since 2012



Taiwan

**ADVANTECH LNC**

Page No: 76

- CNC Controller
- SCADA
- Industrial Panel PC
- Industrial Embedded Box PC
- Distributed I/O Modules & Controllers
- Data Acquisition & Control Cards
- Industrial Communication

Since 2013



Taiwan

**Samagawa**

Page No: 84

- Rotary Encoder
- Resolvers
- 2 & 5 Phase Stepper Motor

Since 2014



Japan

**Nabtesco**

Page No: 88

- Component Type
- Gearhead Type
- Servo Actuator - RV AF

Since 2015



Japan



Page No: 92

- Stepper Driver

Since 2015



Italy

**Baumer**

Page No: 96

- Sensors
- Vision Sensor
- Digital Industrial Camera
- Pressure Transmitter
- Level Sensor
- Rotary Encoder

Since 2016



Switzerland

**Schneider Electric**

Page No: 106

- Switchgear Products

Since 2017



France

**INOVANCE**

Page No: 110

- Energy Saving System for Injection

Since 2019



China

**HIWIN®**

Page No: 114

- LM Guide
- Ball Screw
- Linear Motor

Since 2019



Taiwan

**COGNEX**

Page No: 124

- Barcode Readers
- Barcode Verifiers
- Vision Sensor
- 2D & 3D Vision System
- VisionPro ViDi

Since 2019



USA

**Weidmüller**

Page No: 128

- DRM Relays
- Power Supplies
- PCB Terminal Blocks
- Tool Kits

Since 2019



Germany

**SANYO DENKI**

Page No: 132

- DC Fan
- Blower
- Centrifugal Fan
- ACDC Fan
- AC Fan
- Airflow Tester
- PWM Controller
- San Ace Controller

Since 2019



Japan

# APPLICATION ENGINEERING / MARKETS

Our solutions can boost efficiency in a range of applications across industrial and commercial environment including plastic, textile, packaging, ceramics, pharma, manufacturing, automobile, machine tools, oil & gas, food & beverages, IOT, commercial establishments and others. We have capability to cater to startups, medium to small enterprises as well as large enterprises.

## TEXTILE



- AC Drive • Encoder • PLC
- Resolvers • Scada • Industrial Panel PC

## PLASTIC



- AC Drive • PLC • Vision Sensor
- Scada • Industrial Panel PC

## PHARMACEUTICAL



- Ultrasonic Sensor • Inductive Proximity Sensor
- Vision Sensor • Photoelectric Sensor
- Digital Industrial Camera • Vision System • Scada

## MACHINE TOOL



- CNC Controller • Encoder • Resolvers
- Scada • Industrial Panel PC

## OIL & GAS



- Scada • Industrial Panel PC

## ROBOTICS



- Vision Sensor
- Digital Industrial Camera • Vision System

## CERAMICS



- Scada • Industrial Panel PC
- AC Drive • PLC

## PRINTING MACHINE



- AC Drive • AC Servo • Sensor
- AC Gear Motor • PLC • Motion Controller

## FOOD & BEVERAGE



- PLC • Speed Reducer • Encoder • Resolvers
- 2-5 Phase Step Motors • Motion Controller
  - Sensor • Vision Sensor
- Digital Industrial Camera • Vision System
  - Scada • Industrial Panel PC

## INJECTION MOLDING



- Energy Saving Servo • Hydraulic Pump
- Dedicated Controller • Linear Scale

## AUTOMOBILE



- Encoder • Resolvers • Vision Sensor
  - Digital Industrial Camera
- Vision System • Scada • Industrial Panel PC

## ELEVATOR



- AC Drive • Encoder

## PACKAGING MACHINE



- AC Drive • PLC • AC Gear Motor
  - AC Servo System • Speed Reducer
- Encoder • Resolvers • 2-5 Phase Step Motor
  - Motion Controller • Sensor
- Vision System • Scada • Industrial Panel PC

## MACHINE TOOL/SPM



- LM Guide • AC Servo
  - Ball-Screw

SWITCHING POWER SUPPLY

INDUSTRIAL CONTROL PANEL

PUMP STARTER PANEL



MICRO GEAR MOTOR

MEDIUM GEAR MOTOR

R-F-K-S SERIES GEAR MOTOR

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## SWITCHING POWER SUPPLY

- Fully Automated Production Line
- Single Output : 5V, 12V , 24V, 48V, Dual & Multi Output Series Available
- Panel & Din-rail mount Series available
- Overload & Short circuit protection
- 100% full load Burn-in test
- High Efficiency
- Low Ripple & Noise
- High Quality & Reliability
- All Models available Ex-stock



### • ECO Din Rail Series



### • Panel Mount Series



### • Standard Din Rail Series



# INDUSTRIAL CONTROL PANEL

## Types of Panel

- Design & build as per customer requirement
- Automation control panel with system integration of PLC, HMI, VFD, AC Servo
- Instrumentation panel
- Starter panels DOL/STAR-DELTA/ATS
- Automation panel for pressure boosting application
- Power distribution panel, PCC, MCC, APFC
- Bus duct panel, feeder panel, synchronizing panel
- Design with proper cooling arrangement
- High quality switch gears & automation components
- MS/SS/ABS plastic enclosure with different industrial IP ratings IP44, IP55, IP65

## Key Strengths

- Complete industrial solution
- High quality & reliability
- Excellent workmanship
- Aesthetic & ergonomic design
- Innovative concepts
- Skill engineering
- High product value
- Customer satisfaction



## PUMP STARTER PANEL

### Types of Panel

- Single phase starter panel
- Direct on line starter
- Direct on line starter panel
- Star delta starter panel
- Auto Switch



## MICRO GEAR MOTOR

- Rating : 6W TO 250W- with & without brake
- High stability
- Low temperature rising
- Multi-match ratio
- Gear head with right angle-hollow & solid



## MEDIUM GEAR MOTOR

- Rating : 0.1 KW to 7.5KW
- High durability & efficiency
- Wide range of gear ratio available
- Low noise & maintenance free
- Brake facility & customization available



## R-F-K-S SERIES GEAR MOTOR

- Rating : 0.12 KW to 11 KW
- High bearing capacity
- Low temperature rising
- Low noise
- Wide output torque





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AC DRIVE

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TEMPERATURE CONTROLLER

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PLC

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COUNTER/TIMER/TACHOMETER

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COMMUNICATION MODULE

---

ENCODER

---

HMI

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AC SERVO SYSTEM

MS 300 · C2000 PLUS · ME300 · EL-W  
CP2000 · EL · E · C200 · MH300-L · ED · CFP2000

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DTI · DTK · DTB · DT3 · DTV · DTC · DTE · DVP-SX2  
DVP-SV2 · DVP10PM00M · DVP20PM00D / M

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DVP-SS2 · DVP-SA2 / SE · DVP-ES2 / Ex2  
DVP-EH3 · DVP-SX2 · DVP-SV2 · DVP10PM00M  
DVP20PM00D / M · DVP15MC / DVP50MC  
AH500 · AH560 · AS300 PLC · As200

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ES3/ES5 · EH3/EH5 · AS5· CS7



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TP02 / 04 · TP08 · TP04P · DOP-W · DOP-100



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ASDA A2  
ASDA B2/B2L  
ASDA A2E (Ether CAT)



## MS300 series

New



High performance vector control standard compact drive

- Supports both induction and permanent magnet motors
- Removable 5-digit LED keypad, supports encoder feedback for close loop(Max. Speed 33kHz)
- Built-in 2k steps PLC function, built-in braking chopper for the entire series, built-in USB port for monitoring
- Enhanced 100% PCBs conformal coating; compliant with IEC 60721-3-3 class 3C2
- Built-in RS-485(MODBUS) communication
- Optional communication cards : Profibus DP, devicenet, modbus TCP, EtherNet/IP, EtherCAT, CAN open

### Power Range



### Applications :

Machine Tools, Auto Head Printing Machine, Knitting Machine, Trade Mill Application, Industrial Washing Machine, Crane / Hoist, Plastic Injection Molding Machine, Textile Machines, Woodworking Machines, Packaging Machines, Air Compressors, Pressure Boosting



## C2000 Plus series

New

For general drive controls

- Supports both induction and permanent magnet motors
- Field oriented vector control (FOC) drive with Built-in 10K steps PLC Function with RTC
- Removable LCD keypad with text panels editor function
- Supports encoder/resolver feedback for closed-loop control
- Built-in braking chopper up to 40Hp
- Built-in RS-485(MODBUS) communication
- Optional communication cards : EtherCAT, EtherNet/IP, PROFIBUS DP, devicenet, modbus TCP, CANopen

### Power Range



### Applications :

Machine Tools, Textile Machines, Woodworking Machines, Ceramic Ind(ball Mill), Packaging Machines, Air Compressors, Extruders, Calender Machines, Paper Machines, Wire Drawing Machines, Power Press Machine



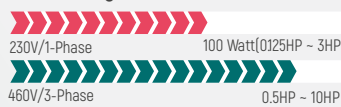
## ME300 series

New

High performance drive

- Support both induction and permanent magnet motors
- Supports input 1kHz PWM or 10 kHz pulses(MI5 terminal)
- Built-in braking chopper for the entire series
- Enhanced 100% PCBs conformal coating; compliant with IEC 60721-3-3 class 3C2
- Built-in RS-485(MODBUS) communication

### Power Range



### Applications :

Textile Machines, Solar Pump, Packaging Machines, Fans & Pumps, Pharma Machine



## EL-W series

New

Compact drive

- V/F, Vector Control Mode
- 4 Multifunction inputs
- PID Feedback Control
- Built-in RS-485(MODBUS) communication
- NPN/PNP(sink/source operation mode)

### Power Range



### Applications :

Food Packaging Machines, Conveyors, Pharma Machine, Cup Printing Machine, Auto Head Printing Machine, Suitable for Small Gear Motor



## CP2000 series

For fan, pumps & HVAC application

- Sensorless vector control drive with built-in 10K steps PLC function with RTC
- Removable LCD keypad with text panels editor function
- Built-in braking chopper up to 50Hp
- Built-in high speed communication BACnet MS/TP
- Built-in RS-485(MODBUS) communication
- Optional communication cards : PROFIBUS-DP, DeviceNet, MODBUS TCP and EtherNet/IP, CAN open Cards

### Power Range



### Applications : Fan, Pumps & HVAC application



## EL series

Compact multi-function

- V/F, vector control mode
- 6 multifunction inputs
- Built-in EMI filter
- PID feedback control
- Built-in RS-485(MODBUS) communication

### Power Range



### Applications :

Food Packaging Machines,  
Auto Head Printing Machine,  
Conveyors, Pharma Machine



New

## E series

High performance/Flexible extension micro type

- V/F, vector & PG control mode
- Built-in 500 steps PLC programming capacity
- Built-in EMI filter
- Built-in braking chopper : 230V series 2Hp~3Hp, 460V series 3Hp~30Hp
- Built-in RS-485(MODBUS) communication
- Optional communication cards
- Optional field-bus module & I/O cards

### Power Range



### Applications :

Machine Tools, Conveyors,  
Pharma Machine, Textile,  
Industrial Washing Machine,  
Jet Dying Machine



## C200 series

Economy vector control micro drive

- Sensorless Vector Control Drive with Built-in 5K steps PLC function
- Built-in Braking Chopper for the entire series
- Built-in pulse input terminals for encoder closed-loop control
- Special Function : High speed Frequency output up to 2000Hz
- Built-in High speed communication CAN open protocol and RS-485 (MODBUS) port for network connection

### Power Range



### Applications :

Line Speed Winder, Food Packaging Machines, Conveyor Equipment, Textile Machines, Engraving Machine, Solar Pump



## MH300-L series

Compact Elevator Drive

- Support induction motor with open loop control
- EPS / ARD and sequence control functions for elevator applications
- Precise control of S curve performs smooth start and stop for a comfortable ride
- 7 digital inputs (extension up to 10) and 1 relay output (extension up to 3)
- Built-in EMC filter
- Built-in RS-485(MODBUS) communication

Power Range



Applications :  
Open Loop Geared elevator



New

## ED series

Advanced Elevator Drive

- Built-in LED digital keypad
- Supports both Induction motor & permanent magnet (synchronous) motor
- Emergency operation is enabled using UPS
- Built-in RS-485(MODBUS) communication
- Supports various encoder (ABZ & Heidenhain encoder ERN1387, 1313)

Power Range



Applications : MRL Elevator



## CFP2000 series



IP55 Fan / Pump drive

- IP55 and IP41 enclosure protections, built-in main switch for the IP55 models (optional)
- Built-in DC reactor effectively reduces the harmonic distortion; IEC61000-3-12 standard
- Enhanced PCB (Printed Circuit Board) conformal coating improves drive durability; Class 3C3 standard
- Built-in RS-485(MODBUS) communication & BACnet MS/TP communication
- Optional communication cards : PROFIBUS-DP, DeviceNet, EtherNet/IP, CAN open Cards

Power Range



Applications : HVAC Pump



New

# TEMPERATURE CONTROLLER



## DTI series

- LCD display (60 mm depth saves space)
- Input sensors : PT-100 & thermocouple inputs
- Output options : relay and voltage pulse outputs
- Single alarm relay
- Control method : PID, MANUAL, ON-OFF
- High speed sampling time : 100ms
- CE certified / IP66 protection for front panel
- Without RS485 communication



## DTK series

- LCD type intelligent temperature controller
- Input temperature sensors : thermocouple, RTD
- Output type : relay and voltage pulse output
- Single alarm & two alarm options
- Control methods : ON/OFF, PID, manual
- Sampling rate : thermocouple or platinum RTD: 0.1 second
- High speed sampling time 100 ms CE certified, UL
- With and without RS485 MODBUS Communication



## DTB series

- Sensor type : thermocouple, RTD, linear voltage/current input
- 2 Control output : relay, current and voltage pulse output
- Linear voltage output
- Support dual loop control output(Heat/Cool)
- Control mode : ON-OFF, PID, manual, ramp-soak program
- Support PID auto-tuning & valve control
- 3 alarm with 13 alarm mode
- Support CT & event function
- Support RS485 communication with MODBUS ASCII/RTU protocol



## DT3 series

- Input sensors : PT-100 & TC & analog Inputs
- Output type : relay, SSR/CT and event I/P current and linear voltage
- Dual output control / retransmission output sampling rates: 0.1S
- Remote control: Sets DT3 temperature via analog output of host controller
- Auto tuning / FUZZY / manual / ON/OFF / PID process control / self Tuning
- Heater disconnection detection measurable up to 100 A
- Supports timer function with alarms



## DTV series

- Sensor type : thermocouple, RTD, linear voltage/ current input
- 2 Control output: relay SPST 230V, 5A
- Real time output percentage display
- Auto/manual mode switch by single key
- Control mode: On-Off, PID, manual, ramp-soak program
- Support PID auto-tuning for valve control
- 2 alarm with 17 alarm mode
- Support RS485 communication
- with modbus ASCII/RTU protocol



## DTC series

- Blind type temperature controller
- Sensor type : thermocouple, RTD, linear voltage /current input
- 2 control output : relay, current and voltage pulse output linear voltage output
- Support dual loop / retransmission control / output(Heat/Cool)
- Control mode: On-Off, PID, Manual, Ramp-Soak program
- Support PID auto-tuning
- 2 alarm with 12 alarm mode
- Support RS485 communication with Modbus ASCII/RTU protocol
- Extendable up to 8 module with master
- Auto ID setup



## DTE series

- Sensor type : thermocouple, RTD
- Control output: relay, current & voltage pulse output
- Control mode: On-Off, PID, manual, ramp-soakprogram
- Support PID auto-tuning
- 2 alarm with 12 alarm mode
- Portable display/parameter setup
- Support RS485 communication with MODBUS ASCII/ RTU protocol
- Extendable up to 7 DTC2000 module with auto ID



## DVP-SS2 series

- 32-bit CPU for high-speed processing
- Maximum I/O : 480 points
- Program capacity : 8 k steps
- Maximum execution speed of basic instructions : 0.35  $\mu$ s
- Built-in RS-232 and RS-485 ports (Master / Slave)
- 4 points of 10 kHz PTO
- 8 points of HSC : 20 kHz / 4 points, 10 kHz / 4 points



## DVP-SA2 / SE series

- 32-bit CPU for high-speed processing
- Maximum I/O : 480 points
- Program capacity : 16 k steps
- Maximum execution speed of basic instructions : 0.35  $\mu$ s
- Built-in 1 RS-232 and 2 RS-485 ports (Master / Slave)
- Supports DVP-S series modules (left-side and right-side)
- 4 points of PTO : 100 kHz / 2 points, 10 kHz / 2points
- 8 points of HSC : 100 kHz / 2 points, 10 kHz / 6points
- SE : Built-in mini USB port, RS-485 port\*2 and Ethernet port



## DVP-ES2 / EX2 series

- 32-bit CPU for high-speed processing
- Maximum I/O : 256 points (DI or DO or DI+DO)
- Standard PLC DVP-ES2 series : 16 / 20 / 24 / 32 / 40 / 60 / 80 I/O points
- Analog I/O PLC DVP-EX2 : Built-in 12-bit 4AI / 2AO output; and 14-bit AIO extension modules
- Built-in 1 RS-232 and 2 RS-485 ports
- Data register: 10 k words
- Maximum Execution speed of basic instructions : 0.35  $\mu$ s
- Maximum 100 kHz PTO



## DVP-EH3 series

- 32-bit CPU + ASIC dual processors support floating point operations
- Programming Steps : 30K
- Maximum I/O : 512 points
- Maximum Execution speed of basic instructions : 0.24 $\mu$ s
- PTO : 4 axes of 200 kHz (32 / 40 / 48 / 64 / 80EH00T3)
- Supports max. 4 hardware 200 kHz HSC
- Provides up to 16 external interrupt pointers



## DVP-SX2 series

- 32-bit CPU for high-speed processing
- Maximum I/O : 480 points
- Program capacity : 16 k steps
- Maximum execution speed of basic instructions : 0.35  $\mu$ s
- Built-in 4 analog inputs / 2 analog outputs
- Built-in mini USB, RS-232 and RS-485 ports (Master / Slave)
- Supports standard modbus ASCII / RTU protocol
- Supports DVP-S series modules (left-side and right-side)
- 4 points of PTO : 100 kHz / 2 points, 10 kHz / 2 points
- 8 points of HSC : 100 kHz / 2 points, 10 kHz / 6 points



## DVP-SV2 series

- 32-bit CPU + ASIC dual processors support floating point operations
- Maximum I/O : 512 points
- Programming Steps : 30K
- Maximum execution speed of basic instructions : 0.24  $\mu$ s
- PTO : 4 axes of 200 kHz pulse output
- Supports 4 hardware 200 kHz HSC
- Provides up to 16 external interrupt pointers
- Supports DVP-S series modules (left-side and right-side)



## DVP10PM00M series

- Built-in 24 I/O points. max. 256 I/O points
- 2 / 3 / 4 / 5 / 6 axes linear interpolation motion control
- PTO : built-in 6 sets of A / B phase
- 2 sets of 200 kHz output, 4 sets of 1 MHz output
- 6 sets of HSC and hardware digital filter for counting
- Supports MPG inputs
- Single-axis motion control function (supports MPG, single-speed and two-speed positioning)
- Electronic gear function



## DVP20PM00D / M series

- Built-in 16 I/O points. max. 512 I/O points / 64K steps
- Compatible with G-code / M-Code
- 3-axis linear / arc / helical interpolation
- Supports electronic cam (2,048 points) function for flying shear and rotary cut applications
- Built-in A / B phase differential signal outputs : 2 sets (DVP20PM00D) / 3 sets (DVP20PM00M)
- Max. differential output frequency : 500 kHz
- Supports MPG inputs
- Single-axis motion control function (supports MPG, single-speed and two-speed positioning)
- Electronic gear function



## DVP15MC / DVP50MC series

- 1 GHZ high-speed floating point operation
- High-precision computing : supports LREAL (Double-precision floating-point format )
- Synchronization time:- DVP15MC : 4 axes in 2ms, 8 axes in 4ms & DVP50MC : 32 axes in 1ms
- 1 CANopen port as host or slave station & 1 Motion port (DVP15MC: CANopen, DVP50MC: EtherCAT)
- 16 high-speed inputs / 8 high-speed outputs
- 2 incremental encoder interfaces & 1 SSI absolute encoder interface
- Ethernet port: DVP15MC x2, DVP50MC x1
- 1 SD card slot & 1 RS-232 port and 1 RS-485 port
- Up to 24 real axes control (virtual axis no.: 1 ~ 32, can't be repetitive with real axis no.)
- Built-in motion control instructions and motion control instructions: speed, torque, homing, and position
- Supports encoder axis and virtual axis
- Application instructions: electronic gear, E-Cam, and rotary cut
- G-code: 8 axes linear / arc / helical interpolation



## AH500 series

- Automation system for high level application
- Utilizes a dual-core multi tasking processor
- Flexible rack structure for expandability
- Rack to rack 100m distance can be use and max rack expandability is 7 extension used racks
- Open communication – SCM, Ethernet, CANOpen, Device net, Profibus, DMC net\*\*
- Operation speed = 0.3 ms @ 1k steps
- Program memory capacity = 256k steps (1MB)
- Max. DIO points = 4352+125000 points & max. AIO channels = 544+3920 channels
- HOT swapping function keeps the system running for improved maintainability
- Variety of digital, analog & motion modules available
- Operating temp : -20 degree to 60 degree centigrade (5~95% no condensation)
- Storage temp : -40 degree to 70 degree centigrade (5~95% no condensation)



## AH560 series

- CPU : AH560-EN2-5A
- Supports redundant function (use as a general CPU)
- Shortest switch over time : 20ms
- Program capacity : 1M steps (4MB)
- Built-in two ethernet ports (switch mode) & supports ethernet I/P DLR & RS232/RS485
- Supports SD card (max : 32GB)
- CPU redundancy
- Power module redundancy
- Main back plane redundancy
- Communication redundancy for expansion back plane
- Communication redundancy of RIO with ethernet I/P DLR



## AS300 PLC series

- CPU : AS332T-A / AS332P-A / AS324MT-A with SD card slot
- Built in ethernet, USB & two RS485 ports
- Built in 6-ch HSC (200KHz) & built in 6 Ch PTO (200KHz)
- Program capacity : AS300-128K steps
- Supports two function cards
- Maximum 32 modules (16 Analog) including remote io modules (maximum 1024 Ios)
- RTC battery for accurate time & Faster execution speed



## AS200 series

- CPU : AS228T-A / AS228P-A / AS228R-A with SD card slot
- Built-in CAN port & Ethernet Port & Two nos. RS485 port & USB port
- Built-in 16 DI / 12 DO with Spring Terminal Block
- 4-ch High Speed Inputs (200KHz) & 6-ch High Speed Outputs (200KHz)
- Program Capacity – 64K Steps
- Doesn't Support Function Cards



## COUNTER/TIMER/TACHOMETER

- 3 IN 1
- mixed timer + counter function
- decimal point setup available
- 6 digit LCD display
- Max.speed of the counter : 10kbps
- DIP switch for quick setup change
- "Reset" & "Lock" key available for convenient use
- 12V power supply for internal & external sensor
- NPN & PNP input signal available
- Relay & Transistor based output
- Pre-scale function displays input concrete function
- Optional Rs485 communication



## COMMUNICATION MODULE

- Convert RS-232 signals to RS-485/RS-422 differential voltage lines
- DeviceNet to RS-485 converter
- CANopen to RS-485 converter
- Ethernet IP Gateway converter
- MODBUS IP Gateway converter
- USB to RS-485 converter
- Support RS-485/RS-422 communication
- Various installation ways
- Handle & isolate signal well
- Maintain data transmission correctly
- To decrease damage by using transmission wire
- Power & shortage protection
- Compact size with easy to Install



## ES3/ES5 series

- Compact, rugged incremental encoder
- Available in 6mm and 8mm solid shaft diameter
- Outer diameter is 37mm and 50mm
- High resolution from 100PPR to 2500PPR
- Open collector, line driver, Push-pull & voltage type outputs
- Input supply range : 5V, 5~12V & 7~24V
- Maximum frequency response : 300 kHz
- Maximum rotational speed : 6000 RPM



## EH3/EH5 series

- Compact, rugged incremental encoder
- Available in 8mm hollow shaft diameter
- Outer diameter is 37mm and 50mm
- High resolution from 100PPR to 2500PPR
- Open collector, line driver, push-pull & voltage type outputs
- Input supply range : 5V, 5~12V & 7~24V
- Maximum frequency response : 300 kHz
- Maximum rotational speed : 6000 RPM



## AS5 series

- Compact, rugged absolute encoder
- Available 8mm solid shaft diameter
- Outer diameter is 50mm
- High resolution : 5-bits to 10-bits
- Gray code, binary code outputs
- Input supply range : 5V & 5~12V
- Maximum frequency response : 20 kHz
- Maximum rotational speed : 3000 RPM



## CS7 series

- Heavy duty Incremental encoder for spindle application
- Available in 15mm solid shaft diameter
- Frame size 68mm ; PCD 56mm
- Encoder resolution 1024 PPR
- Line driver type output
- Input supply range : 5V & 5~12V
- Maximum frequency response : 300 kHz
- Maximum rotational speed : 8000 RPM



## TP02 / 04 series

### Text panel display

- Resolution: TP02 : 160 x 32 dots, TP04G-AS2 : 128 x 64 dots & TP04G-AL2 : 192 x 64 dots
- Built in 256 KB flash memory
- 16 user-defined keys (TP02 series)
- 12 user-defined keys (TP04G-AS2 series)
- 9 user-defined keys (TP04G-AL2 series)
- 2 communication port
- Back light auto turnoff settings
- Built in RTC & password function



## TP08 series

### Text panel display

- STN LCD size : 3.8"
- Resolution : 240 x 128 dots (TP08 series)
- Built in 1024 KB flash memory
- 24 keys user-defined keys
- 2 communication port
- Back light auto turnoff settings
- Built in RTC & password function
- Support recipe & macro function



## TP04P series

### Text panel display with plc

- Adopts the core of the DVP-SS2 Series PLC :
- program capacity : 8 k steps / D device : 5k words
- Provides 2 sets of 10k Hz high-speed pulse input (excludes TP04P-08TP1R)
- 4.1" STN-LCD
- Provides 0~9 numeric keys with user-defined function
- Built-in USB port for program upload/download
- Built-in RS-485 port\*2
- Supports modbus ASCII/RTU modes
- User-defined boot screen available
- Built-in real time clock (RTC)
- Digital and analog I/O terminals available



## DOP-W series

- 1GHz high speed processor for higher computing performance
- Aluminum enclosure : greater vibration resistance and higher tolerance for ambient environments compared with plastic enclosure.
- 1024 x 768 pixels high resolution and high brightness display (W127B: 500 cd/m<sup>2</sup>, W157B: 450 cd/m<sup>2</sup>)
- 256MB Flash ROM
- Highly reliable touch panel with min. 10,000,000 touches
- The built-in stereo amplifying speaker provides efficient alarm notifications. No additional speaker is required.
- Supports 2 COM Ports / 2 Ethernet / 3 USB Host
- Supports SD card
- Apart from traditional mounting, DOP-W also supports the VESA standard mounting interface making wall mounts easier



## DOP-100 series

### BASIC / STANDARD / ADVANCED



- Cortex-A8 800MHz CPU/dual 16Hz(12" & 15")
- Brightness : 400~500 cd/m<sup>2</sup>
- Embedded linux operating system and supports LUA language
- Operational log data function & PDF/TFT reader and PDF printer supported
- CE & UL certified & IP65 rating front case
- Operating temperature: 0~50 degree centigrade

#### BASIC HMIDOP-103BQ

- 256MB RAM & 256MB ROM
- 1 COM port & USB host & USB client

#### Standard HMI : (C Type & E Type)

- DOP-107CV/DOP-110CS/DOP-107EV
- 256MB RAM & 256MB ROM
- C Type : 2 COM ports & E-Type : 2 COM ports+1 Ethernet Ports & USB Host & USB Client
- Brightness : 300~400 cd/m<sup>2</sup>
- FTP/eMail supported : simple data transmission and real-time status report
- CSV File / PDF file can be send through email
- Power Isolation (C & E both types) and communication port Isolation (E Type only)
- PCB coating moisture and dust proof
- 14 different languages supported
- NTP function, web monitoring function

#### Advanced HMI : (W Type)

- DOP-103WQ/DOP-107WV/DOP-110WS/DOP-112WX/DOP-115WX
- M Type : multimedia function DOP-112/DOP-115MX
- W : 512MB RAM & 256MB ROM / 12" & 15": 1GB & 8GB
- W : Type : 2 COM ports & E-Type : 2 COM ports + 1 ethernet ports & USB host & USB client
- Narrow frame design & brightness : 450 cd/m<sup>2</sup>
- FTP/eMail supported : simple data transmission and real-time status report
- CSV File / PDF file can be send through email
- Power Isolation and communication port Isolation
- PCB coating moisture and dust proof
- 14 different languages supported
- NTP function, web monitoring function,
- M Type : analog camera, IP camera, VGA Input, video play, event trigger for image and video capturing



## ASDA A2

- Rated output : 1Ph/3Ph - 200V : 50W to 15.0 KW  
3Ph - 400V : 400W to 15.0 KW
- Rated torque : 0.16 Nm to 95.5 Nm
- 20-bit incremental & 17-bit absolute encoder resolution
- position/ internal position/ speed and torque control modes
- 1.0 KHz velocity response frequency
- 4Mpps exclusive interface for line driver pulses
- Maximum 5000 RPM
- Maximum torque limit 300%
- Full close control with linear scale or external encoder
- Built-in electronic cam (E-CAM) function
- EtherCAT, CANopen, DMCNET communication
- Excellent solution for rotary cutter and synchronized motion applications
- CE & UL safety standard compliance
- IP 65 (except connector)



## ASDA B2/B2L

- Rated Output : 1Ph/3Ph - 200V : 100W to 3.0 KW
- Rated Torque : 0.32 Nm to 19.1 Nm
- 17-bit Incremental encoder resolution
- Position/ speed and torque control modes
- 550 Hz velocity response frequency
- 4Mpps exclusive interface for line driver pulses
- Maximum 5000 RPM
- Maximum torque limit 300%
- RS-232/ RS-485 MODBUS Communication
- CE & UL safety standard compliance
- IP 65 (except connector)



## ASDA A2E EtherCAT®

- Rated output : 1Ph/3Ph - 200V : 100W to 3.0 KW  
3Ph - 400V : 400W to 7.5 KW
- Rated torque : 0.32 Nm to 47.7 Nm
- Support absolute (17-bit) & Incremental (20-bit) type servo motors
- Cyclic & Profile position/ velocity and torque control modes
- Integrated safe torque off (STO) safety function
- High speed position latch (Capture) function
- Flexible topology with simple configuration
- Touch probe function through digital input or external encoder
- Full-closed control built-in for secondary encoder





**Panasonic**

AC GEAR MOTOR

SPEED CONTROLLER

GEAR HEAD

AC SERVO SYSTEM

BRUSHLESS MOTOR

FAYb LASER MARKER

CO<sub>2</sub> LASER MARKER

SENSOR

VISION SYSTEM

INDUCTION MOTOR  
REVERSIBLE MOTOR  
3-PHASE MOTOR  
ELECTRO MAGNETIC BRAKE MOTOR  
VARIABLE SPEED MOTOR

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MGSDDB2

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BALL BEARING · METAL BEARING

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MINAS A6 · MINAS A6B · MINAS LIQI  
MINAS A6N · MINAS A6V FOR AGV  
MINAS A6SL FOR LINEAR MOTOR

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BL GP  
BL GV/KV

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AREA · CROSS-BEAM AREA  
LIGHT CURTAIN · PHOTOELECTRIC  
MICRO · FIBER · FIBER HEAD  
INDUCTIVE PROXIMITY · LASER · MARK  
ULTRA-COMPACT & SLIM · DIGITAL PRESSURE  
DIGITAL FLOW · MICRO LASER  
MEASUREMENT · OPTICAL FORK · ULTRASONIC FORK



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MACHINE VISION SYSTEM IMAGECHECKER: PV230



### INDUCTION MOTOR

- Rated output : 1 Phase - 200V : 6W to 90W
- Reduction ratio: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 60 sq. mm to 90 sq. mm
- Maximum torque : 19.6 Nm
- High power factor & low noise level
- Motors with round shaft & pinion shaft
- Compact motor size with powerful output
- Built-in thermal overload protection
- Motors with lead wires or terminal box (sealed connector)



### 3-PHASE MOTOR

- Rated output : 3 Phase - 200V/400V : 25W to 90W
- Reduction ratio: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 80 sq. mm to 90 sq. mm
- Maximum torque : 19.6 Nm
- Run with variable frequency drive possible (200V only)
- Variable speed, braking, soft start/stop, normal/reverse run possible
- High power factor & low noise level
- High torque with low speed
- Built-in thermal overload protection
- Motor with temperature of insulation class 130 (B)
- Motors with lead wires or terminal box (sealed connector)



### REVERSIBLE MOTOR

- Rated output : 1 Phase - 200V : 6W to 90W
- Reduction ratio: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 60 sq. mm to 90 sq. mm
- Maximum torque : 19.6 Nm
- Quick reversal run possible
- Same performance at both normal & reverse run
- Built-in simple brake mechanism
- Maximum reversal operation 6 cycles per minute
- High torque with low speed
- Built-in thermal overload protection
- Motors with lead wires or terminal box (sealed connector)



### ELECTRO MAGNETIC BRAKE MOTOR

- Rated output : 1/3 Phase - 200V : 6W to 90W
- Reduction ratio: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 60 sq. mm to 90 sq. mm
- Maximum Torque : 19.6 Nm
- Suitable for holding the load at power off
- Instant brake activated
- Quick-reversal run possible
- Common power for both motor & brake
- Built-in thermal overload protection



## VARIABLE SPEED MOTOR

- Rated output : 1 Phase - 200V : 6W to 90W
- Reduction ratio: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 60 sq. mm to 90 sq. mm
- Speed range : 90 ~ 1400 RPM
- Maximum torque : 19.6 Nm
- Applicable speed controller: MGSDB2
- Built-in tachogenerator feedback available with motor
- High power factor & low noise level
- Compact motor size with powerful output
- High torque with low speed



## SPEED CONTROLLER

### MGSDB2

- Input voltage : 1 Phase - 200V
- Applicable panasonic gear motor range: 6W to 90W
- Speed range : 90 ~ 1400 RPM
- Suitable for variable speed single phase Induction/ reversible & brake motors
- Speed can be adjusted through knob given on the front panel
- Electric brake enable Instantaneous stop
- Compact 8P plug-in configuration
- Compliant with International standard
- UL/ CSA, CE safety standard compliance



## GEAR HEAD

### BALL BEARING/ METAL BEARING

- Gear head range: 1 / 3 to 1 / 200
- Decimal gear head: 1 / 10
- Frame size: 60 sq. mm to 90 sq. mm
- Maximum torque : 19.6 Nm (standard gear head)
- Maximum torque : 29.4 Nm (high torque gear head)
- Right angle type & high torque type gear head available
- Hinge attached or hinge not attached type gear head available
- Maximum gear head efficiency 81%



# AC SERVO SYSTEM

**Panasonic**

## MINAS A6

- Rated output : 1Ph/3Ph - 200V : 50W to 22.0 KW
- Rated torque : 0.16 Nm to 140.0 Nm
- 23 bit absolute / Incremental encoder resolution
- position/ internal position/ speed/ torque & full close control modes
- 3.2 KHz ultrafast velocity response frequency
- 8Mbps exclusive interface for line driver pulses
- maximum 6500 RPM
- Maximum torque limit 350%
- RS-485/ RS-232 MODBUS-RTU communication
- Support 256 Internal position through digital Input & MODBUS communication
- Quadrant projection suppression function
- Detachable keypad
- Compact motor size
- Low cogging torque
- Advance PANATERM software for PC Interface
- Motor sizing software
- CE & UL & european safety standard compliance
- IP 67 (except connector)



## MINAS A6B

EtherCAT®

- Rated output : 1Ph/3Ph - 200V : 50W to 22.0 KW
- Rated torque : 0.16 Nm to 140.0 Nm
- Support 23-bit absolute & incremental type servo motors
- cyclic & profile position/ velocity/ torque & full Close control modes
- 3.2KHz velocity response frequency
- Minimum communication period 0.125ms
- Communication speed 100Mbps full-duplex
- Support network communication "EtherCAT"
- Anti-vibration filters are available
- Fast & highly accurate operation
- Configuration max. Rotation speed 6500 rpm
- Precise position latch & comparing
- High performance & low cost
- IEC safety I/F model available



## MINAS LIQI

- Rated output : 1Ph/3Ph - 200V : 200W to 1.2 KW
- Rated Torque : 0.64 Nm to 5.6 Nm
- 10000 ppr encoder resolution
- Support position control mode only
- 1.0 KHz velocity response frequency
- 500 KHz exclusive interface for line driver pluses
- Maximum 5000 RPM
- Maximum torque limit 300%
- Advance PANATERM software for PC Interface
- Android application for smart phones
- Motor sizing software
- CE & UL safety standard compliance
- IP 65 (except connector)



## MINAS A6N

**RTEX**  
Realtime Express

- Rated output : 1Ph/3Ph - 200V : 50W to 22.0 KW
- Rated torque : 0.16 Nm to 140.0 Nm
- Support 23-bit absolute & incremental type servo motors
- Cyclic & profile position/ velocity/ torque & full close control modes
- 3.2KHz velocity response frequency
- Minimum communication period 0.0625ms
- Communication speed 100Mbps full-duplex
- Support network communication "RTEX"
- Precise position latch & comparing
- Easy device development
- High performance & low cost
- Support Infinitely rotatable absolute encoder
- High efficiency ring topology
- IEC safety I/F model available



## MINAS A6V FOR AGV

- Rated output : 24V/ 48V DC : 200W & 400W
- Rated torque : 0.64 Nm to 1.3 Nm
- 23 bit absolute encoder resolution
- Position/ speed/ torque & full close control modes
- 500kHz exclusive interface for line driver pulses
- Maximum 3000 rpm
- Maximum torque limit 200%
- RS-485/ RS-232 MODBUS-RTU communication
- Compact motor size
- IP 65 (except motor shaft & connector)

### Application:

- Automatic guided vehicle
- Battery operated vehicle



## MINAS A6SL FOR LINEAR MOTOR

- Rated output : 1Ph/3Ph - 200V
- Support position control mode
- 8Mbps exclusive interface for line driver pulses
- RS-485/ RS-232 modbus-RTU communication
- Support serial communication incremental/absolute & A/B/Z phase pulse linear scale
- Both with & without hall sensor signal automatic detection
- Automatic magnetic pole/scale direction & gain setup
- Advance PANATERM software for PC Interface



## BRUSHLESS MOTOR

### BL GV/KV

- Rated output: 1Ph/3Ph - 200V : 50W to 750W
- Rated torque : 0.16 Nm to 2.4 Nm
- Rated speed : 3000 RPM & max. 4000 RPM
- Standard & high torque gear head can be used
- Full time sine-wave drive with original CS sensor
- Speed control (0~5V DC)
- 8 Internal speeds available
- Programmable DI / DO
- Constant torque at 30~3000 RPM
- RS-485 Communication
- Highly precise speed control with no slip
- Low vibration, low noise
- IP 65 (except motor shaft & connector)

### Application:

- Conveyor



## BRUSHLESS MOTOR

### BL GP

- Rated output: 1Ph/3Ph - 200V : 50W to 130W
- Rated torque : 0.16 Nm to 0.41 Nm
- Rated speed : 3000 RPM & max. 4000 RPM
- Standard & high torque gear head can be used
- Full time sine-wave drive with original CS sensor
- 4 Internal position block available
- Programmable DI/DO
- Constant torque at 30~3000 RPM
- RS-485 communication
- Compact motor size
- IP 65 (except motor shaft & connector)

### Application:

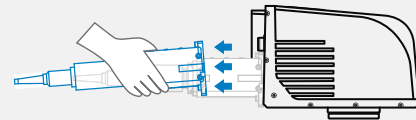
- Indexing
- Conveyor



## FAYb LASER MARKER

### LP-RF series

- Yb fiber laser,  $\lambda = 1064 \text{ nm}$
- Compact fan-less head with IP64 rating
- Controller offering high resistance to noise
- Removable head
- Direct linkage with image processing device
  - 1) Automatic marking position correction
  - 2) Laser marking
  - 3) Cross-check of scanned code information
- Installation with minimal man-hours
- Laser marker NAVI Smart
- Smart condition setting function
- True type font marking capability
- Safe and stable operation : duplicate interlock circuit
- Moving workpiece marking function



## CO<sub>2</sub> LASER MARKER

- CO<sub>2</sub> laser marker ; 10.6 $\mu\text{m}$  wavelength

### LP-430 series

- High grade model
- Standard & tower head model available
- High stability laser support for wide range of applications
- High speed marking at 700 cps, scanning speed: max. 12,000 mm/sec.,
- Line speed: 240 m/min., or less
- Head rotation up to 350° allows flexible installation option (standard models)
- Space saving design (tower head models)
- All models are available in FDA & CE marking compliant variations



### LP-310 series

- New entry level model for laser marking
- Accurate and distinct marking



## PHOTOELECTRIC SENSORS

- Wide range of sensors to cater the different industrial applications
- Compact size with competitive price
- Long sensing range up to 50 m
- Transparent object detection
- Two setting distances are possible : EQ-34W
- BGS and FGS functions also available



## MICRO SENSORS

### MICRO PHOTOELECTRIC SENSORS

- Extremely small size enables space saving and quick installation
- Easy connection by using commercially available connectors
- Equipped with two independent outputs
- K type, T type, L type, Y type, F type & R type available
- Stable detection by convergent reflective mode
- Dark object and minute object detectable



## FIBER HEAD

### FIBER SENSOR HEAD FT/FD/FR SERIES

- Full line-up of fiber head from general use fibers to special fibers
- Standard fiber : For basic applications & cost effective
- Tough flexible fiber : for high impact & shock resistance with no breakage
- Retro-reflective fiber : for detection of glass substrate/specular object
- Special fibers : heat-resistant, chemical-resistant, vacuum resistant fiber



## FIBER SENSORS

- Manual, digital & high-speed fiber amplifiers
- Fiber amplifiers with dual display and MODE NAVI technology
- An optical communication function allows to connect 16 sensors
- High-speed response of 35μs : FX-301-HS
- NEW !!! FX-500 Series : Ultra high-speed (25 μs) & Ultra long range detection
- Self-diagnosis output, built-in logic function and analog output



## ULTRA-COMPACT & SLIM

### ULTRA-COMPACT & ULTRA-SLIM PHOTOELECTRIC SENSOR EX SERIES LINE-UP

- Extraordinarily small and slim size with amplifier built-in
- Flexible mounting, waterproof (IP67) & bright 2 - color indicator
- **EX-10 Series** : very small size-just W10 x H14.5 x D3.5 mm
- **EX-20 Series** : Incorporates a sensitivity adjuster and long sensing range
- **EX-30 Series** : threaded miniature type a new alternative to fiber sensors



## MARK SENSORS

- Equipped with 3 LEDs - red, green & blue
- Two selectable sensing modes for any application :
- (A) mark mode, (B) color mode
- Its 4-digit display and 3 large buttons makes easy setting of application
- High precision coaxial reflective optical system & 12-bit A/D converter
- Compact design for significant space saving
- NEW !!! LX-111 : easy 2 button operation



## INDUCTIVE PROXIMITY

- Rectangular-shaped with the longest stable sensing range
- Highly resistant to water or oil and IP68g protective construction
- Cylindrical-shaped with long sensing range and 2-color indicator
- Spatter-resistant and DC 2-wire also available
- Compact cylindrical inductive proximity sensor with amplifier separated
- High-speed response, excellent workability and ease of maintenance



## LASER SENSORS

- 6 types of laser sensor head for various applications
- Long sensing range up to 30 m
- Laser amplifiers with 2 large 4-digit display for easy settings
- Equipped with MODE NAVI customized function
- NEW !!! EX-L200 Series : ultra-compact laser sensor with amplifier built-in
- NEW!!! LS-500 Series : amplifier separated digital laser sensor



## DIGITAL PRESSURE SENSORS

- Analog output type with dual 3-color display to make operation easier
- Dual display allows direct setting of threshold value
- Copying via wiring reduces man-hours and human error
- Light-weight, compact size, din-rail mounted digital pressure sensor
- High accuracy & resolution with micro-differential digital pressure sensor
- New DPC/H-L100 Series : head-separated, dual display pressure sensor
- Applicable to air, water & oil, Analog output 0 to 10 V & 4 to 20 mA



## MICRO LASER SENSORS

### MICRO LASER DISTANCE SENSOR HG-C SERIES

- All-in one model, compact in size
- Excellent level detection performance with 10μm repeatability
- Fitted with a precise CMOS image sensor
- Easy teaching with window comparator mode
- Equipped with 0-5 VDC analog output
- An aluminum die-cast casing protects from stain & heat
- Ensuring IP67 protection housing



## DIGITAL FLOW SENSORS

- Integrated display type for clean air, compressed air or nitrogen gas
- Easy-to-use dual color with sub display
- One sensor for both intake and exhaust
- Analog voltage output and key lock function
- Display rate setting with ECO mode
- For low, medium and high flow rate



## MEASUREMENT SENSORS

- Ultra high-speed, high-precision Laser displacement sensor
- Excellent basic performance with HDLC-CMOS sensors
- High-speed, high accuracy eddy current type digital displacement sensor
- Accurate measurement of minute displacements
- Ultra-compact & high-functionality intelligent Laser collimated beam sensor
- High resolution and long sensing range



## LIGHT CURTAIN

### SF2B/SF4B Series

- SF2B : type 2 light curtain
- SF4B : type 4 light curtain
- Unit length = protective height, "ZERO" dead zone
- Equipped with a digital error indicator & beam-axis alignment indicators
- Handy-controller enables the user to select a variety of settings



## LIGHT CURTAIN

### SF2C/SF4C/SF4B-C Series

(COMPACT / SLIM TYPE)

- SF4C : ultra slim light curtain Type-4
- SF2C : ultra slim light curtain Type-2
- Featuring easy installation and reduced wiring
- Light weight and IP67 protection structure
- NEW!!! SF4B-C : compact light curtain Type-4
- Introducing flush mounting design for aluminum frames
- Incorporates a large multi-purpose in indicator



## LIGHT CURTAIN

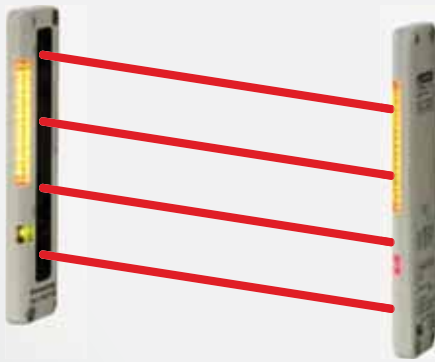
### SF4D Series (TYPE 4, COMPACT & ROBUST TYPE)

- Robust unit body for reliable operation even under harsh conditions
- New Optical System : ample power and easy beam adjustment
- Narrower sensing surface for improved protection against collisions
- Completely new mounting brackets feature both rigidity & ease of handling
- New high power optical system offering stable operation even for long distance setup
- Series connection of up to 5 units
- Complies with IP67 and IP65 (IEC) as well as NEMA Type 13 (NEMA 250)



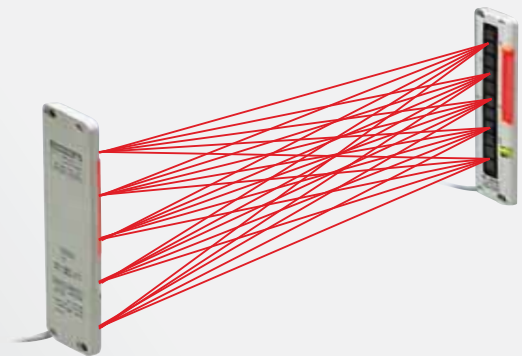
## AREA SENSOR

- Slim body, just 13 mm thick general purpose
- Clearly visible wide job indicator & Interference prevention for parallel installation
- Ultra-slim body picking sensor with 3 meter sensing range
- Selectable detection operation & lighting pattern selectable
- Easy alignment and flexible cable orientation
- Space-saving, pocket lighter-size unit also available



## CROSS-BEAM AREA SENSOR

- Cross-beam scanning system to detect slim objects
- Very slim design with wide sensing area of 1m length & 100mm width
- No synchronization wire required
- Clearly visible indicator



## VISION SYSTEM

### MACHINE VISION SYSTEM IMAGECHECKER: PV230

- All-in-one model featuring image processing, optical character recognition
- (OCR) and code reading (CR) functions
- "3 + 1" quad processor for high speed processing
- Support 0.3M, 2M, 4M grey cameras & 0.3M, 2M color cameras
- A wide variety of preprocessing filters, color extraction and gray conversion functions provide reliable reading
- Smart edge, geometry calculation, screen customization features
- High-speed communication and storage
- Compatible with parallel I/O, RS232C, Ethernet





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CNC CONTROLLER

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PLASMA CONTROLLER

***HUST***

50

A60-Universal  
A6KDLV-S-Spring  
A6KCL7-TA / A6KCL7-MA  
A6KNDL-TA / A6KNDL-MA



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F2100B  
F2300B  
F2500B  
F2500A-2  
PTHC-1002



## A60-Universal

- 6 Axes Linux Operating System
- 8" Touch Screen
- 64 Bit High speed and High precision contour
- PREFETCH 8000 Per/Sec
- Multi Axes Synchronous function
- Inclined Plane Machining
- Electronic Copy function
- Electronic CAM/PID Function
- Open Screen Editing



## A6KDLV-S-Spring

### SPRING / COILER MACHINE CONTROLLER

- Multi Axes Linux Operating System
- 10.4" Color Display
- Dedicated Software
- CAM Operation
- Probe Connectivity
- Teach Function
- Open Screen Editing



## A6KCL7-TA / A6KCL7-MA

- 6 Axes Linux Operating System
- 7" Color Display
- Bus type Communication
- 64 Bit High speed and High precision contour
- PREFETCH 8000 Per/Sec
- Multi Axes Synchronous function
- Inclined Plane Machining
- Electronic Copy function
- Electronic CAM/PID Function
- Open Screen Editing



## A6KNDL-TA / A6KNDL-MA

- Multi Channel Multi Axes Linux Operating System
- 10.4" Color Display
- Bus type Communication
- 64 Bit High speed and High precision contour
- PREFETCH 8000 Per/Sec
- Multi Axes Synchronous function
- Inclined Plane Machining
- Electronic Copy function
- Electronic CAM/PID Function
- Open Screen Editing



# PLASMA CONTROLLER



## F2100B, F2300B, F2500B, F2500A-2

- 2-3 axis controller
- Dedicated for plasma & gas cutting
- 7" / 10.4" / 15" colour display
- USB supported
- Torch height control interface possible
- Easy to download new graphics
- Angle adjustment
- Graphics ready to use
- Supported XY mirror
- Zoom In / zoom out
- 48 categories different graphics ready to use
- Support FastCAM, FreeNEST & SmartNEST IBE software
- 64 MB CF card
- Lead in & lead out
- Brake point recovery
- Backward & forward function



## PTHC-1002

- Use nixie tube and LED as arc voltage
- Signal & clear display, stabilization
- Easy to use by button and knob
- Voltage divide and makes all angle shield by metal
- Better anti-interference
- Simple & convenient parameters for setting
- Easy to change torch height slightly when torch is working



The Nidec logo is displayed in a bold, italicized green font. It is centered within a white rounded rectangular box. The background of the entire page features a technical line drawing of a car, with the left side in light gray and the right side in a solid brownish-orange color.

***Nidec***

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SPEED REDUCER

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FLEXWAVE

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CORONEX

VRXF  
VRL  
VRS  
VRB  
EVL

EVS  
EVB  
VRG  
VRT

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60



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## VRXF Series

- New gear design with a fully-complementing roller bearing structure for increased torque transmission
- Maximum high input speed at 6,000 spm
- High-performance grease for higher efficiency
- 3 backlash levels available
- Compatible with all types of servomotors with the use of adaptors
- Grease replacement is not required throughout the product's lifetime; can be installed at any desired angle without worry of leakage.

- Reduction Ratio : 1/3-1/81
- Backlash (3 Types) :  
PB: 0.05° (below 3 min)  
LB: 0.08° (below 5 min)  
Standard: 0.25° (below 15 min)
- \* LB: 166° (below 10 min) for Frame B in the spec table



## VRL Series

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thread-in mounting style
- Best-in-class backlash (<5 arc-min)
- Ships in 48 hours in standard frame sizes

### APPLICATION

- An excellent choice when very requiring good accuracy and re-liability at an exceptional value
- These planetary gear-head are the perfect solution for servomotors applications such as gantries, injection-molding machines, pick & place automation and linear slides



## VRS Series

- Industry standard mounting dimensions
- Large variety of frame size and ratios
- Thru-bolt mounting style
- Impressive radial & axial load ratings
- Best-in-class backlash (<3 arc-min)
- Ships in 48 hours in standard frame sizes
- Assembled in USA

### APPLICATION

- The VRS series is commonly utilized in application such as higher speed packaging and converting equipment, printing machinery and any servo application requiring very low backlash in a more demanding environment



## VRB Series

- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Best-in-class backlash (<3 arc-min)
- Ships in 48 hours in standard frame sizes
- Assembled in USA

### APPLICATION

- The positional accuracy and torque handling capabilities are an ideal fit for packaging machinery, medical equipment, and custom assembly cell automation



## EVL Series

- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru mounting style
- Best-in-class value for right-angle reducers
- Low-backlash (< 6 arc-min)
- Space-saving design when minimal envelope available
- Readily available

### APPLICATION

- The EVL planetary gear-box is a perfect solution for OEM equipment such as packaging, assembly automation, and any advanced conveyers systems implementing sortation or positioning / multi-speed



## EVS Series

- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Best-in-class value for right-angle reducers
- Low-backlash (< 4 arc-min)
- Maximum flexibility for mounting & clearance constraints
- Readily available

### APPLICATION

- Equipment manufacturers building custom assembly automation systems will find the flexibility and space-saving features of the EVB an ideal fit for their unique projects



## EVB Series

- Industry standard mounting dimensions
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Best-in-class value for right-angle reducers
- Low-backlash (< 6 arc-min)
- Maximum flexibility for mounting & clearance constraints
- Readily available

### APPLICATION

- Equipment manufacturers building custom assembly automation systems will find the flexibility and space-saving features of the EVB an ideal fit for their unique projects



## VRG Series

- High-stiffness cross-roller bearings at output. Compact and strong body produces high power
- Best-in-class backlash (<3 arc-min)
- Flange out-put by large diameter cross-roller bearings. Compact design contributes to appreciation flexibility
- No grease change required due to high grade grease packed in sealed body
- Easy installation to any servo application.

### APPLICATION

- The positional accuracy and torque handling capabilities are an ideal fit for packaging machinery, medical equipment, and custom assembly cell automation.



## VRT Series

### FEATURES

- outstanding positioning accuracy & remarkable torsional stiffness
- Large variety of reduction ratios to choose from
- Thru-bolt mounting style
- Extremely high torque density & rigidity
- Low-backlash (< 3 arc-min)
- Space-saving design

### APPLICATION

- The series is sets new standards in application requiring extremely high torque density & rigidity. Very low backlash and extreme radial and thrust load capabilities. The VRT is the most robust planetary solution in the marketplace and is used across a numerous range of applications including 7th axis robot shuttles, dial tables or any other axis where installation space



## FLEXWAVE

- High-efficiency reducer design
- Compact design contributes to appreciation flexibility
- Low-backlash (< 1 arc-min)
- Space-saving design
- Deform the elastic bearings and flex gear using in cam
- Readily available

### APPLICATION

- The circulate is ideal for those applications in heavier industrial environments where a more robots and machine tools



## CORONEX

- High-efficiency cycloidal reducer design
- Multiple inputs: NEMA C-Face, servo square flange, shaft input, shovel base, top mount
- Straddle mount output shaft bearings
- multiple mounting option: Base, Flange, Ring
- Readily available

### APPLICATION

- The circulate is ideal for those applications in heavier industrial environments where a more robust cycloidal reducer is necessary



MOTION CONTROLLER

CAN I/O MODULES



ETHERCAT I/O MODULES

64

MC403  
MC404Z  
MC405  
MC508

EURO404 / EURO408  
MC4N RTEX / ECAT  
MC664-X  
Flex-6-Nano



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P326  
P319  
P318  
P317



68

P371  
P372  
P375  
P378  
P379  
P379



## MC403 Series

- Advanced 2-Axis closed loop servo / 3-Axis pulse direction output
- Incremental or EnDAT, SSI, tamagawa absolute encoder interface
- Ethernet-IP, modbus TCP, modbus serial, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on ARM11 processor with VFP
- Multi-tasking BASIC and IEC 61131-3 programming
- Flexible CAM, linked motion, interpolation and robotic transformations
- CANopen I/O expansion and micro SD memory card Slot
- RoHS, UL and CE approved



## MC404Z Series

- Advanced 4-Axes Pulse Direction Output, 16/8 Digital I/O
- Ethernet-IP, Modbus TCP, Modbus Serial, Trio ActiveX, Ethernet Interface Built-in
- 125-4000 micro sec. Selectable Servo Update
- Precise 64 bit Motion Calculations on ARM Cortex-M7 Processor
- Multi-tasking BASIC and IEC 61131-3 Programming
- Flexible CAM, Linked Motion, Interpolation and Robotic Transformations
- CANopen I/O Expansion and Micro SD Memory Card Slot
- Panel mount Format
- RoHS, UL and CE Approved



## MC405 Series

- Advanced 4-Axis closed loop servo / 5-Axis pulse direction output
- Incremental or EnDAT, SSI, tamagawa absolute encoder interface
- Ethernet-IP, modbus TCP, modbus serial, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on ARM11 processor with VFP
- Multi-tasking BASIC and IEC 61131-3 programming, built-in RTC
- Flexible CAM, linked motion, Interpolation and robotic transformations
- CANopen I/O expansion and micro SD memory card slot
- RoHS, UL and CE approved



## MC508 Series

- Advanced 8-Axis Closed loop Servo / 16-Axis Pulse Direction Output
- Incremental or EnDAT, SSI, Tamagawa Absolute Encoder interface
- Ethernet-IP, Modbus TCP, Modbus Serial, Trio ActiveX, Ethernet Interface Built-in
- 125-2000 micro sec. Selectable Servo Update
- Precise 64 bit Motion Calculations on ARM11 Processor with VFP
- Multi-tasking BASIC and IEC 61131-3 Programming, Built-in RTC
- Flexible CAM, Linked Motion, Interpolation and Robotic Transformations
- CANopen I/O Expansion and Micro SD Memory Card Slot
- RoHS, UL and CE Approved



## EURO404 / EURO408 Series

- Advanced 4 / 8-Axes closed loop servo / pulse direction output
- Ethernet-IP, modbus TCP, modbus serial, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on ARM11 processor with VFP
- Multi-tasking BASIC and IEC 61131-3 programming
- Flexible CAM, linked motion, interpolation and robotic transformations
- CANopen I/O expansion and micro SD memory card slot
- 3U rack mount and din rail mount format
- RoHS, UL and CE approved



## MC4N RTEX / ECAT Series

- Up to 32 servo / stepper digital drive axes
- Isolated encoder port supports incremental or EnDAT, SSI, tamagawa absolute encoder
- Ethernet-IP, modbus TCP, modbus serial, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on 532MHz ARM11 processor
- Multi-tasking BASIC and IEC 61131-3 programming, built-in RTC
- EtherCAT or RTEX digital drive interface
- Flexible CAM, linked motion, interpolation and robotic transformations
- CANopen I/O expansion and micro SD memory card slot
- Hardware linked outputs for camera / laser control
- RoHS, UL and CE approved



## MC664-X Series

- Up to 128 Axes - 64 stepper / servo digital drive axes and 64 virtual axes
- Isolated Encoder port supports incremental or EnDAT, SSI, tamagawa absolute encoder  
->Ethernet-IP, Modbus TCP, modbus serial, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on quad core cortex A9 1GHz processor
- Multi-tasking BASIC and IEC 61131-3 programming, built-in RTC, built-in EtherCAT port
- EtherCAT, sercos, SLM and RTEX digital drive interface
- Flexible CAM, linked motion, interpolation and robotic transformations
- CANopen I/O expansion and micro SD memory card slot
- Hardware linked outputs for camera / laser control
- Anybus-CC module for flexible factory comms including profinet / profibus
- RoHS, UL and CE approved



## Flex-6-Nano Series

- Advanced 2 to 64-Axes digital ethercat drive
- Ethernet-IP, modbus TCP, trio activex, ethernet interface built-in
- 125-2000 micro sec. Selectable servo update
- Precise 64 bit motion calculations on dual core 1GHz ARM Processor
- Multi-tasking BASIC and IEC 61131-3 programming, built-in RTC
- Flexible CAM, linked motion, interpolation and robotic transformations
- Micro SD memory card slot
- Built-in EtherCAT coupler for direct access to trio 's flexslice slaves
- RoHS, UL and CE approved



## P317 Series

### CAN 16-OUT DIGITAL

- Provide up to 256 distributed output channels at 24Vdc level
- 16 x 24Vdc sourcing (PNP) output channels
- 1A per bank of 8 output, 250mA / channel output capacity
- 500Kbit/sec network speed
- TrioCAN I/O / CANopen DS401 protocols
- RoHS, CE and UL compliance



## P319 Series

### CAN 16-IN / OUT DIGITAL

- Provide up to 256 distributed bi-directional I/O channels at 24Vdc level
- 16 x 24Vdc sourcing (PNP) input / output channels
- 500Kbit/sec network speed
- TrioCAN I/O / CANopen DS401 protocols
- RoHS, CE and UL Compliance



## P318 Series

### CAN 16-IN DIGITAL

- Provide up to 256 distributed input channels at 24Vdc level
- 16 x 24Vdc sourcing (PNP) input channels
- 500Kbit/sec network speed
- TrioCAN I/O/CANopen DS401 Protocols
- RoHS, CE and UL compliance



## P326 Series

### CAN 8-IN/4-OUT ANALOGUE I/O

- Provide up to 32 analogue input and 16 output channels
- 8 x +/- 10V inputs with isolation from CANbus
- 4 x +/- 10V outputs with isolation from CANbus
- 500Kbit/sec network speed and 12 bit resolution
- TrioCAN I/O / CANopen DS401 protocols
- RoHS, CE and UL compliance



## P371 Series

### 16-OUT PNP

- Provide up to 256 distributed output channels at 24Vdc level
- 16 x 24Vdc sourcing (PNP) output channels
- 4A per bank of 8 output, 500mA / channel output capacity, cable length 30m max
- EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , network speed 100Mbit/S
- RoHS, CE and UL compliance



## P375 Series

### FLEX 3-AXIS

- Allows up to 3 stepper or encoders to be connected to a control system
- Supports incremental or SSI, endat, tamagawa absolute encoders
- 8MHz pulse count rate, 8MHz encoder count rate
- EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , Network speed 100Mbit/S
- Built-in WDOG output for servo enable



## P372 Series

### 16-IN PNP

- Provide up to 256 distributed input channels at 24Vdc level
- 16 x 24Vdc sourcing (PNP) input channels
- Cable length 30m max
- EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , network speed 100Mbit/S
- RoHS, CE and UL compliance



## P378 Series

### 8 ANALOGUE OUTPUTS

- 8x  $\pm 10\text{V}$  outputs, 12 bit resolution
- EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , network speed 100Mbit/S
- RoHS, CE and UL compliance



## P379 Series

### 8 ANALOGUE INPUTS

- 8x +/- 10V inputs, 12 bit resolution
- EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , network speed 100Mbit/S
- RoHS, CE and UL compliance.



## P379 Series

### P366: ETHERCAT COUPLER

- >Connects EtherCAT with EtherCAT Slices
- >Up to 16 Flexslice EtherCAT modules, cable length 30m max
- >EtherCAT refresh cycle  $\geq 125\mu\text{s}$ , network speed 100Mbit/S
- >RoHS, CE and UL compliance



INJECTION  
MOLDING CONTROLLER

MWEB PRODUCTION  
INFORMATION SYSTEM



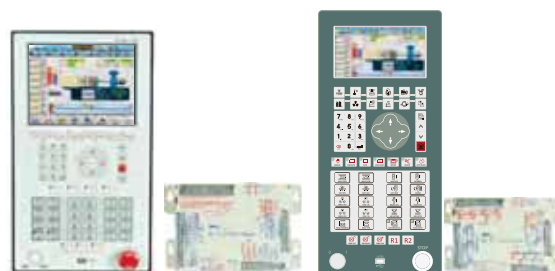
ENERGY SAVING SERVO SYSTEM

HYDRAULIC PUMPS

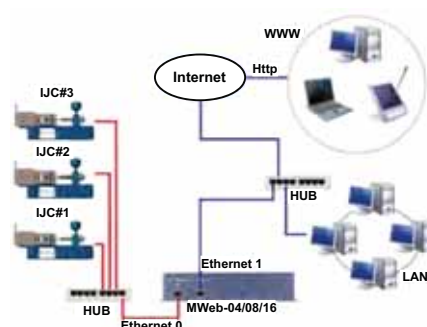
TRANSDUCER

MX1-300 · MQ-200 · MH-9110  
MV-100 · MH-9118 · MH-6117

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INTERNAL GEAR PUMP



74

INTERNAL GEAR PUMP · HELICAL GEAR PUMP

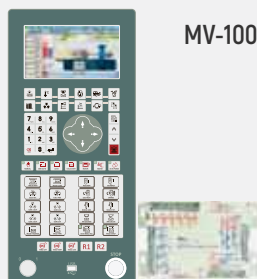


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LINEAR TRANSDUCER  
PRESSURE TRANSDUCER  
SENSORS



# INJECTION MOLDING CONTROLLER



MV-100



MH-6117



MH-9118



MH-9110



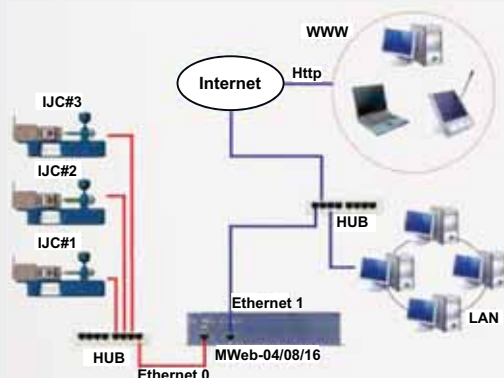
MQ-200



MX1-300

	MV-100	MH-6117	MH-9118/9110	MQ-200	MX1-300
Display Unit CPU	ARM9 266MHz 32 bits	ARM9 266MHz 32 bits	ARM9 266MHz 32 bits	X86 800MHz 32 bits	X86 800MHz 32 bits
Control Unit CPU	RISC 140MHz 32 bits	RISC 140MHz 32 bits	RISC 140MHz 32 bits	RISC 140MHz 32 bits	ARM CORTEX-A8 500MHz 32bits
Screen	7.4 inch 800 x 480 color TFT LCD	7.4-inch 800 x 480 color TFT LCD	8.4/10.4 inch 800 x 600 color TFT LCD	10.4 inch 600 x 800 16 bit color TFT LCD (vertical)	10.4 inch 600 x 800 16 bit color TFT LCD
PID Temperature Control	5 Ranges (control accuracy $\pm 1^{\circ}\text{C}$ )	6 Ranges (control accuracy $\pm 1^{\circ}\text{C}$ )	8 Ranges (control accuracy $\pm 1^{\circ}\text{C}$ )	12 Ranges (control accuracy $\pm 1^{\circ}\text{C}$ )	12 Ranges (exp. to 24) (control accuracy $\pm 1^{\circ}\text{C}$ )
Linear Transducer Input	2 Sets (16 bit)	3 Sets (16 bit)	4 Sets (16 bit)	4 Sets (16 bit)	4 Sets (16 bit)
A/D Pressure Sensing Input	1 Sets (16 bit)	1 Set (16 bit)	2 Sets (16 bit)	4 Sets (16 bit)	4 Sets (16 bit)
D/A Proportional Valve Output	2 Sets (16 bit)	3 Sets (16 bit)	4 Sets (16 bit)	8 Sets (16 bit)	8 Sets (16 bit)
Digital Inputs / Digital Outputs	24 / 24	32 / 32	32 / 32 (expandable to 48/48 points)	32 / 32 (expandable to 48/48 points)	32 / 32 (expandable to 64 points)
USB Interface	1	1	1	1	1

## MWEB PRODUCTION INFORMATION SYSTEM



- Information integration function
- Global information connectivity (built-in web server)
- Keep historical production records
- Establish a dedicated web system (browsing web page)
- Remote diagnosis
- To integrate third-party software

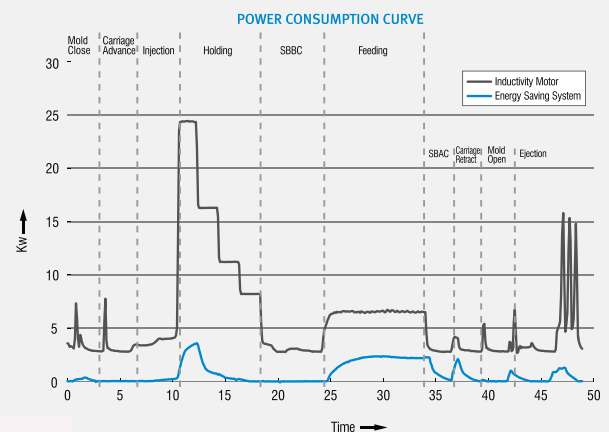
# ENERGY SAVING SERVO SYSTEM



Model Number		50LPM	64LPM	80LPM	100LPM	125LPM	150LPM	180LPM	200LPM	250LPM
PUMP	Pump Rate (cc)	28	32	40	50	63	75	90	100	125
	Pressure (bar)	160 / 180								
MOTOR	KW	11/12	12/14	14/18.2	18.2/23	23/29	29/36.7	36.7/40.5	40.5/45.2	45.2
	Rated RPM	2000								
	Max. RPM	2500								
DRIVE	KW	11/15	15/18.5	18.5/22	22/30	30/37	37/45	37/45	45/55	55
	Rated Amp	22/32	32/39	39/42	42/60	60/75	75/90	75/90	90/105	105

## OUR PROJECTS

In actual test conditions of mirle's energy saving system, the machine was 180 ton horizontal injection machine, 160 lmp energy saving system. The fully automated process was run and the watt hour meter was used to measure the power consumption in one side and the result is shown below



## TYPICAL APPLICATION



Injection Molding Machine



Insert Injection Molding Machine



Hydraulic Power Press Machine

LUBI  
DELTA  
PANASONIC  
HUST  
NIDEC  
TRIO  
MIRLE  
ADVANTECH  
TAMAGAWA  
NABTESCO  
RTA  
BAUMER  
SCHNEIDER  
INOVANCE  
HIWIN  
COGNEX  
WEIDMULLER  
SANYODENKI

# HYDRAULIC PUMPS

## INTERNAL GEAR PUMP

- Flow rate [cc] : 32, 40, 50, 64, 80, 100, 125 cc
- Maximum rotating speed : 3000rpm
- Internal gear pump with axial & radial gap compensation
- Suction & pressure port radial
- Low noise
- Low pulsation (pressure pulsation ~ 2%)
- Fast reverse rpm allowed : max < 400.

**Sunny**



## HELICAL GEAR PUMP

- Flow rate [CC] : 32, 40, 50, 63, 75, 90 cc
- Maximum rotating speed : 3000RPM
- Low noise also at high speed
- Energy saving during part load & no load running condition
- Intermittent operation at high pressure & low speed
- Very high volumetrical efficiency
- Fast reverse RPM allowed : max < 400

**SETTIMA®**



# TRANSDUCER

## LINEAR TRANSDUCER

### LTM SERIES

**GEFRAN**

Stroke length : 75mm up to 900mm



### PKM SERIES

Stroke length : 100mm up to 2000mm



### Features

- The transducer has been improved in order to guarantee greater reliability under all conditions
- A sturdier structure makes the LT series even stronger for applications with heavy vibration
- Ideal for applications on plastic injection presses, vertical presses, and on many other processing machines
- IP62 & IP65 protection class

## PRESSURE TRANSDUCER

### Features

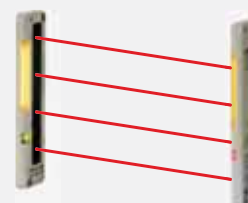
- Ranges from 200 bar/250 bar/500 bar/600 bar
- Accuracy:  $\pm 0.15\%$  FS typical
- ATEX certification for hazardous areas use
- Ambient/process temperature T4 (-40°...+80°C)
- SIL2 approval according to IEC/EN 62061



## SENSORS



Safety Sensor



Area Sensor



Proximity Sensor



Drop Sensor



Vision Camera



Micro Sensor



CNC CONTROLLER

INDUSTRIAL COMPUTER

INDUSTRIAL EMBEDDED FANLESS  
BOX PCs

INDUSTRIAL COMMUNICATION

IOT GATEWAYS / INTELLIGENT  
WIRELESS RTU

DATA ACQUISITION AND CONTROL  
CARDS

LABVIEW SOFTWARE

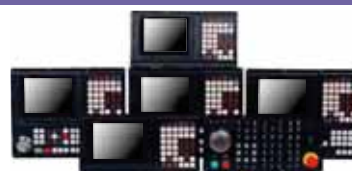
WEBACCESS SCADA

INTELLIGENT TRANSPORT SYSTEMS

**ADVANTECH** **LNC**

M5800DS3 · T5800DS3 · M5800A  
LNC-M5800A · LNC-T5800A · LNC-T3600A

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## T3600A

- Turning type 1-2 axes controller
- Screen size 7"
- Pulse command axis control port
- Inbuilt standard I/O-22I\*16O
- Memory-256MB
- Webaccess / industry 4.0 / cloud monitoring
- Expandable I/O-optional
- Front USB port
- EtherNET port
- Built-In MOP



## T5800A

- Turning type 1-4 axes controller
- Screen size 8"
- Pulse command axis control port
- Inbuilt standard I/O-40I\*32O
- Memory-1GB
- Spindle / C axis function
- Turn mill function
- Webaccess / industry 4.0 / cloud monitoring
- Expandable I/O-optional
- Front USB & EtherNET port
- Built-In MPG & MOP



## M5800A

- Milling type 1-6 axes controller
- Screen size 8"
- Pulse command axis control port
- Inbuilt standard I/O-40I\*32O
- Memory-1GB
- Webaccess / industry 4.0 / cloud monitoring
- Expandable I/O-optional
- Front USB & EtherNET port
- Built-In MOP



## T5800DS3

- Turning type 1-6 axes controller
- Screen size 8"
- Fieldbus type
- Inbuilt standard I/O-32I\*32O
- Memory-1GB
- Webaccess / industry 4.0 / cloud monitoring
- Expandable I/O-optional
- Front USB & EtherNET port
- Built-In MOP



## M5800DS3

- Milling type 1-9 axes controller
- Screen size 8"
- Fieldbus type
- Inbuilt standard I/O-32I\*32O
- Memory-1GB
- Webaccess / industry 4.0 / cloud monitoring
- Expandable I/O-optional
- Front USB & EtherNET port
- Built-In MOP



## INDUSTRIAL COMPUTER



- Embedded Industrial Touch Panel PC (TPC), Automation Panel PC (PPC), Rack mount chassis PC, BOX PC which can be used for wide range of industrial application
- Varieties of Sizes available: 5.7", 6.5", 10", 12", 15", 17", 18.5", 21.5" & 23.8"
- Varieties of Motherboard : SBC, Mini-ITX / Micro ATX, ATX / Server Board
- Varieties of Intel processors: Intel Atom, Dual core, Core2 Duo, Core2 Quad, Celeron mobile, Intel core i3, i5, i7 & Intel Xeon Processor
- Variety of OS support including : WES Server/ WES10/8/7, WinXP/XPe, WinCE and Linux
- Extremely rugged design with die-casting bezel & Aluminium housing
- Wide temperature range -20deg ~ 60deg for harsh environment
- Front panel: NEMA4, IP65 certified & 2KV Isolation protection
- BIS certified Computer range

## INDUSTRIAL EMBEDDED FANLESS BOX PCs



- Varieties of Intel processors: Intel Atom, Dual core, Core2 Duo, Core2 Quad, Intel core i3, i5, i7, Celeron mobile
- 4 x GbE support IEEE 1588, 2 x USB 3.0 super-speed ports
- 4 x DI, 4 x DO, 4 x RS-232 / 485 / 422
- DP + VGA dual display outputs
- Dual power inputs and wide temperature
- iDoor technology support with PCI/PCIe Slot
- Extremely rugged design with die-casting bezel & aluminium housing
- Front panel: NEMA4, IP65 certified
- IEC 61850-3 and IEEE 1613 certified substation computers
- Class I, division 2 certification for oil & gas

## INDUSTRIAL COMMUNICATION



### INDUSTRIAL ETHERNET SWITCHES

- Max.24 High speed port Ethernet managed/unmanaged switches
- 10G Ethernet solutions
- Wide Range of Fiber switches with SFP socket option
- L3-L2 managed switches
- 90W high power POE solutions
- Support numerous network protocols, such as SNMP, PROFINET, and Ethernet/IP
- Redundant Dual 12~48 VDC power input and 1 relay output
- Class-1 Div-2 Certified & IPV6 support
- Railway certified EN50155 switches
- IEC-61850 Power Certified switches

### SERIAL DEVICE SERVER/WLAN DEVICE SERVERS/ MODBUS GATEWAY/PROTOCOL CONVERTOR

- 1-port/2-port/4-port/8-port RS-232/422/485 serial device server
- 2 x 10/100 Mbps ethernet ports for LAN redundancy
- 1/2-port RS232/422/485 to 802.11b/g/n WLAN Serial device servers modules
- Wide Range of Modbus to BACnet/ProfiNet/OPC-UA/EtherNet/IP /EtherCAT protocol convertors

## IOT GATEWAYS / INTELLIGENT WIRELESS RTU



### WISE / ADAM / ECU SERIES

- Support RS485, ethernet, wireless connectivity like LoRA/WiFi/GPRS
- 1/2/6/8/16 channel analog I/O modules
- 2/4/8/12/15/16 channel digital I/O modules
- Temperature/humidity input modules
- Isolated repeaters & convertors range [Rs232 to Rs485, USB toRS232/RS485/RS422, fiberoptic to RS232/RS485/RS422]
- Multiple protocol support : Modbus TCP, TCP/IP, UDP, HTTP, DHCP, Ethernet/IP, Profinet, MQTT, REST protocol for IoT & IEC-61850/IEC-104 power energy protocol
- Local data logger & cloud storage with secure socket
- HTML5 web interface for mobile configuration
- Support wide communication distance range upto 15Km
- Wide temperature & power input range
- Over current and temperature shutdown, surge, EFT and ESD protection

## DATA ACQUISITION AND CONTROL CARDS



### PCI/PCIE SERIES DAQ MODULES

- High Speed PCI/PCle bus based DAQ cards
- Max.128ch isolated DI/DO modules
- Max.125Ms/s high speed AI/AO modules
- 8-port PCI/PCle serial communication Card(RS232/RS485/RS422) with surge protection
- Support PCI/PCle based motion card for machine automation

### Software Support



### USB DAQ MODULES

- Portable, robust & versatile
- High Speed USB based DAQ card
- Max. 200 kS/s, 16-bit, 16-ch multifunction USB module
- Max.48/24 TTL digital I/O modules
- Support DIN-rail/wall/panel/vesa mount

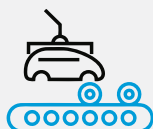
## LABVIEW SOFTWARE



21 CFR Part 11



Test Bench



Assembly Line



Machine Automation



Monitoring &  
Data Logger



IoT Solution



Traceability &  
Data Analysis

- 21 CFR Part 11, compliance solution for pharma/ food industries
- Test & measurement application for test bench solution
- Assembly line software solution
- Online traceability & data analysis
- Machine automation software
- Monitoring and data logger for various application
- IoT & factory 4.0 automation
- Customize application support with advantech DAQ solution

## WEBACCESS SCADA



- 100% web-based solution
- Client view support for mobile & PC
- Ample Driver Support - Web Access support hundreds of devices
- Open real-time data connectivity : OPC UA/DA, Modbus, BACnet, DDE Server
- IEC-104, DNP3 Power protocol support
- Open offline data connectivity : SQL Server, Oracle, MySQL, MS Access Database
- Redundant SCADA & Communication Ports
- Google Maps and GPS Location Tracking
- HTML5 dashboard support
- Support Customize Report
- TCL, Java ,VB script support
- Remote access to alarms, Data and E-mail alarms, SMS alarm notification
- Support LonWorks LNS and BACnet IP
- Web-enabled video and audio integration
- MQTT driver support for IoT Application
- Special Tools for Scheduler and EMS System
- Customize graphic option

## INTELLIGENT TRANSPORT SYSTEMS

Advantech offers a full product range for rail and roadway applications, such as railway automatic fare collection, wayside control, rolling stock, urban traffic management, highway management, and transportation hub management



- EN50155 Compact Fanless System
- 28/ 16/ 12/ 10/ 8-Port EN 50155 Rolling Stock Switch
- EN 50155 Passenger Information System Panel PC
- EN 50155 Railway Panel Computer
- EN 50155 Rolling Stock NAT Router for Ethernet Train Backbone



Rolling Stock Controller



EN50155 Compliance Switches



Wayside Controller



PIS System



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ROTARY ENCODER

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RESOLVER

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STEPPER MOTOR

Heavy Duty Encoder  
Sine Cosine Encoder  
Incremental Encoders

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NEMA 17 · NEMA 24 · NEMA 23 · NEMA 34



# ROTARY ENCODER



## Sine Cosine Encoder

- TAMAGAWA sine-cosine encoder provides absolute position & smooth output for ELEVATOR GEARLESS PM Motor
- Support up to 2000 RPM
- Tapper shaft avoid slippage
- Suitable with almost all Inverters used for PM motors
- Input Supply : 5V



## Incremental Encoders

- Compact, rugged incremental encoder
- Frequency response to reach 500 kHz
- Support up to 6000 RPM
- Outer diameter 37mm & 48mm ; 6mm solid shaft & 8mm through hollow shaft
- Resolution from 100 PPR to 5000 PPR
- Open collector, voltage, push-pull, line driver, commutation encoder
- Input supply range : 5V, 5~12V & 7~24V DC



## Heavy Duty Encoder

### 30mm Hollow shaft

- Compact, rugged & heavy duty incremental encoder
- Frequency response to reach 85kHz
- Support up to 3000 RPM
- Outer diameter 100mm & 30mm through hollow shaft
- Resolution 1024PPR
- Line driver & open collector output
- Input supply range : 5V, 12~15V



## RESOLVER

### Series : Smartsyn, Singlesyn

- Absolute position & velocity detection
- Angle sensor that converts rotational angles into electric signals
- Input supply range : 4V, 5V, 7V, 10V AC rms
- Support up to 40,000RPM
- Robustness against noise enables long-distance transmission
- Constant output against moisture, vibration, dust, temperature, humidity
- Used for PMSM motors and electric vehicle(EV) motors for pulse feedback



# STEPPER MOTOR



## NEMA 17

- Small size motor with high torque
- Driving step angle 1.8 degree/pulse
- Rated current per phase 0.3 to 1.4 AMP
- Holding torque 0.16 Nm to 0.883 Nm
- Winding bipolar/unipolar both available



## NEMA 23

- Medium size motor with high torque
- Driving step angle 0.9 & 1.8 degree/pulse
- Rated current per phase 1.0 to 5.0 AMP
- Holding torque 0.39 Nm to 2.0 Nm
- Winding bipolar/unipolar both available



## NEMA 24

- Extra medium size motor with high torque
- Driving step angle 1.8 degree/pulse
- Rated current per phase 1.0 to 4.0 AMP
- Holding torque 0.75 Nm to 2.2 Nm
- Winding bipolar/unipolar both available



## NEMA 34

- large size motor with high torque
- driving step angle 1.8 degree/pulse
- rated current per phase 3.2 to 6.4 AMP
- holding torque 2.5 Nm to 10.6 Nm
- winding bipolar/unipolar both available



The Nabtesco logo is displayed in a bold, blue, sans-serif font. It is positioned within a white, rounded rectangular box that is part of a larger white area on the left side of the page. The background of the entire page is split vertically: the left half is light gray with white stars and a white area at the bottom containing a stylized illustration of a coastline with a ship, and the right half is a solid reddish-brown color with faint, stylized illustrations of clouds, stars, a city skyline, and a large, smiling, elephant-like creature in the water.

**Nabtesco**

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COMPONENT SETS

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SERVO ACTUATORS

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GEARHEADS

RV-N/E · RV-C/CA

90



AF-N · AF-C

90



GH · RS · RD-C · RD-E

91



## COMPONENT SETS

### RV-N/E

- Solid shaft
- Backlash 1 arc.min.

**T** 58-14700 Nm  
**I** 31-203.52



### RV-C/CA

- Hollow shaft
- Backlash 1 arc.min.

**T** 98-11760 Nm



## SERVO ACTUATORS

### AF-N

- Solid shaft
- Backlash 1 arc.min.
- With servomotor

**T** 82-3856 Nm  
**I** 81-252.33



### AF-C

- Hollow shaft
- Backlash 1 arc.min.
- With servomotor

**T** 460-3002 Nm  
**I** 120.47-157



## RD-E

- Solid shaft
- Backlash 1-2 arc.min.
- 3 Input options (straight, right angle, pulley)

**T** 58-3136 Nm

**I** 31-185



## RD-C

- Hollow shaft
- Backlash 1-1.5 arc.min.
- 3 Input options (straight, right angle, pulley)

**T** 98-3136 Nm

**I** 81-258



## RS

- Hollow shaft
- Backlash 1 arc.min.
- Right angle input
- Table type

**T** 2548-8820 Nm

**I** 120-240



## GH

- Solid shaft
- Backlash 6 arc.min.
- High Speed

**T** 69-980 Nm

**I** 10.74-3143



## STEPPER DRIVER





- Range of operating voltage : 24~85V DC & 110~230V AC
- Range of current : 0.6~12.0 Amps
- Microstepping range : 400, 800, 1600, 3200, 6400, 12800 steps/revolution
- Support CANopen, EtherCAT communication
- High efficiency CHOPPER with MOSFET final stage output
- Electronic damping facility for further acoustic noise & mechanical vibrations reduction



## TYPES OF STEPPING DRIVES

STEP & DIRECTION



ADVANCED



ANALOG INPUT



PROGRAMMABLE



CANopen

EtherCAT®

## DC Stepper Driver

- Range of operating voltage 24 to 85 Vdc
- Range of current 0.6 to 12.0 Amp
- Selectable resolution upto 12800 steps/revolutions
- Available versions Boxed type / open Frame



## AC Stepper Driver

- Range of operating voltage 110 to 230 Vac
- Range of current 2.4 to 4.0 Amp
- Selectable resolution upto 3200 steps/revolutions
- Available versions Boxed with plug in connector



## EtherCAT Stepper Driver

- Range of operating voltage 24 to 48 Vdc & 110 to 230 Vac
- Range of current upto 4.0 Amp
- Communication by means of EtherCAT (COE) interface
- Mode of operation : profile position and CSP
- Different variety of homing operation modes.
- Encoder feedback
- Available versions boxed with plug in connectors





Baumer

PRESSURE TRANSMITTERS

LEVEL SENSORS

TEMPERATURE TRANSMITTER

CONDUCTIVITY TRANSMITTER

FLOW SWITCH

SENSORS

VISION SENSOR

DIGITAL INDUSTRIAL CAMERA

ENCODER

CTX PBMH  
PBM4 PP20H  
Y91 PFMH  
Y923 PBMN

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Clever Level Switch LBFS  
Clever Level Switch LFFS  
Clever Level Switch LBFI /LBFH  
LEVEL TRANSMITTER-LSP

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TE2 SERIES  
Flex Top · Flex Temp

101



Combilyz AFI4/AFI5 Series

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PF20S/PF20H Series

101



ULTRASONIC SENSOR  
PHOTOELECTRIC SENSOR  
INDUCTIVE AND CAPACITIVE PROXIMITY SENSOR

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Incremental Encoder  
Absolute Encoder  
Bearing Less Encoder  
Cable-pull Encoder  
Heavy Duty Encoder  
Techogenerator  
Linear Encoder





## CTX Series

- For general / OEM applications
- Excellent price performance ratio
- Pressure range 0 Up to 200 Bar & -1 Up to 39 Bar
- Diaphragm : ceramic (96%  $\text{Al}_2\text{O}_3$ )
- Accuracy 0.5 % of FS
- Available in only DIN 43650 electrical connector
- Outputs: 4-20mA 2-wire or 0-10V 3-wire technology



## PBM4 Series

- For industrial and mobile hydraulic applications
- Standard range 0 to 25 bar Up to 1000 Bar
- Stainless steel diaphragm with 0.6mm pressure channel
- Very good vibration and shock absorption capacity
- Available in M12 plug type connectors only
- Accuracy 0.5 % of FS
- Outputs: 4-20mA 2-wire or 0-10V 3-wire technology



## Y91 Series

- Intrinsically safe version, ATEX approved
- Can be used for industrial and hazardous areas
- Pressure range 0 Up to 600 Bar & -1 Up to 39 Bar & millibar
- Zero and span adjustment facility (  $\pm 10\%$  of FS)
- Diaphragm : ceramic (96%  $\text{Al}_2\text{O}_3$ ), accuracy  $\leq \pm 0.3\%$  of FS
- Highly resistance to sever process chemicals
- Outputs: 4-20mA 2-wire or 0-10V 3-wire technology



## Y923 Series

- Intrinsically safe version, ATEX approved
- Can be used for industrial and hazardous areas
- Standard range 0 Up to 600 Bar with flush diaphragm
- Zero and span adjustment facility (  $\pm 10\%$  of FS)
- Can be used for thick, viscous media and adhesive material
- Highly resistance to sever process chemicals
- Outputs : 4-20mA 2-wire technology





## PBMH Series

- Fully welded pressure transmitter for hygienic applications
- Compact & hygienic design for wash down without residuals
- High temperature resistance for CIP and SIP (supports up to 200 °C)
- Most accurate with accuracy  $\leq 0.25\%$  &  $0.1\%$  of FS
- Surface roughness of flush process connection  $R_a \leq 0.8$
- Easy programmable with flex programmer 9701
- Outputs: 4-20mA 2-wire & 0 -10V 3-wire technology



## PP20H Series

- Fully welded hygienic pressure transmitter with flush membrane
- Low cost pressure transmitter with accuracy  $\leq 0.5\%$  of FS
- Wide temperature range -20 to 125 °C without cooling neck
- Suitable for food & beverage, pharmaceutical & cosmetic industries
- EHEDG & 3A certified versions available
- Outputs : 4-20mA 2-wire & IO-link



## CombiPress PFMH Series

- Fully welded pressure transmitter with built - in graphical touch screen display
- 1:10 turn down feature, accuracy  $\leq 0.25\%$  &  $0.1\%$  of FS
- Easy zero-adjustment through push-button
- Easy programmable with flex programmer 9701& touch screen
- Available in absolute & millibar range also for hydrostatic level application
- 3A / FDA / ATEX approvals & With HART protocol also
- Outputs: 4-20mA 2-wire & 0 -10V 3-Wire technology



## PBMN Series

- Fully welded pressure transmitter with/without flush membrane
- Most accurate with accuracy  $\leq 0.25\%$  &  $0.1\%$  of FS
- High over pressure resistance with diaphragm SS 316L
- Suitable for low & high pressure industrial applications
- Supports up to 125°C / 200 °C process temperature with/without cooling neck
- Easy programmable with flex programmer 9701
- Outputs : 4-20mA 2-wire & 0 -10V 3-wire technology



# LEVEL SENSORS



Baumer

## *Clever Level Switch LBFS*

- Clever alternative to vibrating forks for Industrial and hygienic app
- Universal for all types of media material
- Compact design & short immersion length
- Wetted parts in stainless steel and PEEK natura
- Available in different process connections & Sensor length
- PNP/NPN output with Status Indication by bright LED
- M12, 4 pin plastic electrical connector
- Programmable by flex programmer 9701
- Supports up to 115 °C process temperature
- Very much suitable for viscous media



## *Clever Level Switch LFFS*

- Advance high frequency sweep technology
- Insensitivity to adhesive media
- Compact Hygienic Design
- Available in 100mm and 250 mm length sliding connection
- Switching outputs – PNP/NPN-NO/NC configurable
- Status Indication by bright LED – 360 degree visible from top
- Programmable by flex programmer 9701
- Suitable for CIP and SIP (Supports up to 200 °C process temperature)
- 3A ,EHEDG & ATEX approvals



## *Clever Level Switch LBFI / LBFH*

- Clever alternative to vibrating forks for Industrial and hygienic app
- Universal for all types of media material
- 2 separate switching outputs – PNP/NPN-NO/NC configurable
- Status Indication by bright multicolor LED(green,blue,yellow,magenta)
- Manual teach-In (Q-teach) function & IO-link supported
- Programmable by flex programmer 9701
- Suitable for CIP and SIP (supports up to 115 °C continuous)
- 3A and EHEDG approved
- Very much suitable for viscous media



## LEVEL TRANSMITTER

### LSP Series

- Fast response Time < 10ms
- Insensitive to Foam, bubbles, sticky & adhesive media
- Wide process temperature range -20°C - 200°C
- Available with 20Cm to 300Cm sensing rod length
- Food compatible, hygienic design
- Wetted parts in acid-proof, stainless steel and PEEK
- 3A approved / FDA and EHEDG compliant





## TEMPERATURE TRANSMITTER

### Te2 SERIES

- Compact RTD temperature sensor
- Available with 4...20 mA transmitter or Pt100 output
- Available with hygienic as well as industrial process connections
- CIP Compatible
- Process temperature range -30°C - 250°C
- Available in different process connections & sensor length
- Easy programmable with flex programmer 9701



### Flex Top / Flex Temp

- Head / panel mounting type temperature transmitter
- 4...20 mA transmitter for Pt100/TC/ analog signals
- Selectable for 2-, 3- or 4-wire sensors
- Accuracy better than 0.25°C
- Sensor error detection
- 2-way configuration
- Available with HART communication also
- Easy programmable with flex programmer 9701



## CONDUCTIVITY TRANSMITTER

### Combilyz AFI4/AFI5 Series

- Available in compact & split versions
- Measure conductivity/concentration and Temperature
- Measuring range from 50  $\mu$ S/Cm to 1 S/Cm
- Hygienic design, built in graphical touch screen display
- Very fast temperature compensation
- Separate 4 ~ 20mA o/p for conductivity and temperature
- CIP compatible
- Available in different process connections & sensor length
- 3A, EHEDG, FDA approved
- Programmable by flex programmer



## FLOW SWITCH

### PF20S/PF20H Series

- Calorimetric Flow sensor for industrial and hygienic applications
- Parallel measurement of flow and temperature
- Large measuring range up to 400 cm/s (Velocity form)
- Measurement at high media temperatures up to 125 °C & 100 bar pressure
- Flexible outputs (analog or switching programmable by IO-link programmer )
- Suitable for CIP and SIP
- Suitable for Water and thin liquid media only
- Available in different process connections & sensor length





## INDUCTIVE AND CAPACITIVE PROXIMITY SENSOR



### INDUCTIVE PROXIMITY SENSOR

- Extended sensing range with flush type design
- Inductive distance measuring sensor with sensing range upto 16 mm
- Inductive sensor with full metal housing, hygienic design, washdown design, ATEX/NAMUR, weld field immune, high pressure, high temperature

### CAPACITIVE PROXIMITY SENSOR

- Reliable object detection with sensing distances up to 30 mm
- Failure-free detection of highly transparent and opaque materials
- Reliable detection even on optically reflecting surface

## PHOTOELECTRIC SENSOR

- O500, O300 series : the new performance categories in optical sensor technology with qteach technology
- Sensors for the food and beverage industry with IP 69K, Ecolab tested and FDA compliant
- Laser sensors with distance measurement with sensing range upto 13 meter
- Special sensors like SCATEC copy counter/edge detector



## ULTRASONIC SENSOR

- Safe and flexible in use
- Liquid and solid media in every environment
- Long service life thanks to utmost robustness
- Available output signals 0...10 VDC and 4...20 mA or inverted from 10...0 VDC and 20...4 mA
- Compact design and lifelong robustness IP 67





# Baumer

## VISION SENSOR

- Wide variety of feature checks with one single sensor
- Presence and completeness checks
- Determination or inspection of object position and orientation
- Reading and verifying human-readable imprints (OCR/OCV)
- Reading and checking matrix codes and barcodes including GS1 codes
- Compact, industry-suited IP 67 or IP 69K metal housing
- Wide range of connection options via digital I/Os and Ethernet



## DIGITAL INDUSTRIAL CAMERA

- Excellent image quality and high frame rates, a camera design which enables rapid and flexible integration
- Wide variety of cameras in color and monochrome versions as well as resolution ranging from VGA to 25 megapixel
- The cameras are based on innovative technologies such as CCD & CMOS and include all relevant standard interfaces (GigE Vision®, USB3 Vision™ and Camera Link®)



## OPTICAL FORK SENSOR



- Detection of opaque labels
- Fork width of 3 mm for precise sensing
- Fork depth of 40 mm to accommodate wide range of labels
- 4 - wire function for NPN/PNP + NO/NC outputs
- User friendly and easy settings



## ULTRASONIC FORK SENSOR



- Detection of transparent labels
- Fork width of 3 mm for precise sensing
- Fork depth of 69 mm to accommodate wide range of labels
- 4 - wire function for NPN/PNP + NO/NC outputs
- User friendly and easy settings
- Metal housing for sturdy operations



LUBI DELTA PANASONIC HUST NIDEC TRIO MIREL ADVANTECH TAMAGAWA NABTESCO RTA BAUMER SCHNEIDER INOVANCE HIWIN COGNEX WEIDMULLER SANYODENKI



## Incremental Encoder

- Compact & rugged incremental encoder
- Frequency response : 300 kHz (TTL/5V)  
160 kHz (HTL/8~30V)
- Support up : ≤6000 rpm (+20 °C, IP 67)  
≤8000 rpm (+20 °C, IP 65)
- Available in shaft diameter : 6mm, 8mm
- Hollow shaft diameter : 8mm, 10mm, 12mm, 15mm
- Resolution from 100 PPR to 5000 PPR
- TTL/RS422, HTL/Push-pull output with programmable encoder(up to 65536 PPR )
- Input supply : 5V, 8~30V & 5~30V
- IP-65, 67 Protection



## Absolute Encoder

- Compact & rugged absolute encoder
- Frequency response : 300 kHz (TTL/5V)  
160 kHz (HTL/8~30V)
- Support up : ≤6000 rpm (+20 °C, IP 67)  
≤8000 rpm (+20 °C, IP 65)
- Available with different shaft and hollow shaft variants
- Available with different communications CANopen, PROFIBUS, Device Net, SSI, Parallel Interface, EtherCAT
- Input Supply : 5V & 8~30V
- IP-65, 67 protection



## Bearing Less Encoder

- Precise & robust magnetic sensing method
- 6mm to 740mm ID range
- Max. 32768 pulses per revolution
- Output circuits : HTL/push-pull and TTL/RS422
- Non-contact, wear-free sensing system
- High resistant to dirt, vibrations, moisture, high temperature
- Input supply : 5V, 8~30V & 5~30V
- IP-66 protection





## Cable-pull Encoder

- Cable-pull with absolute multiturn & incremental encoder
- SSI, analog and CANopen interface
- Compact housing
- Measuring length up to 7500mm
- High operational reliability & long life
- IP-65 protection



## Techogenerator

- Solid shaft and EURO flange B10
- Idle voltage up to 200 mV/rpm.
- Ultimate lifetime thanks to longlife commutator with embedded silver track
- Real-time acquisition of speed and rotational direction
- Operating temperature max. +130 °C
- Support up to 10000RPM
- IP-55, 56 protection



## Heavy Duty Encoder

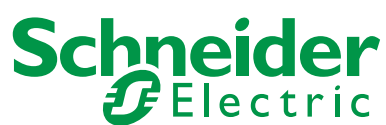
- Robust electrical and mechanical design with incremental and absolute output, dual bearings
- Solid aluminum or stainless steel housing
- Isolated against shaft currents
- Integrated function monitoring EMS
- OD Size 130...287 mm
- Hollow shaft  $\varnothing 16...150$  mm ; EURO Flange B10(11mm)
- Resolution 64~5000 PPR
- Input supply : 5V & 9~30V
- Support up to 12,000RPM
- Available with different communications CAN open, PROFIBUS, device Net, SSI, Parallel Interface, EtherCAT
- IP-65, 67 Protection



## Linear Encoder

- Square wave output signals
- Max. resolution 0.005 mm with magnetic belt
- Sensing distance 0.6 mm
- System accuracy  $\pm 0.04$  mm
- Interpolation factor 50, 100
- Output : pushpull & Rs422
- Input supply : 5V & 8~30V
- IP-67 protection





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ACTI 9 SERIES

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AIR CIRCUIT BREAKER

---

CONZERV METER

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EASY PACT TVS SERIES

---

HARMONY PRODUCT

---

MOULDED CASE  
CIRCUIT BREAKER

---

POWER CAPACITOR

---

TESYS D SERIES

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108



108



108



109



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109



109



## ACTI 9 SERIES

### Features :

- Miniature circuit breakers
- MCB current rating : 1A to 125A
- MCB pole rating : Up to Four Pole
- Earth leakage circuit breaker / residual circuit breaker
- ELCB/RCCB current rating : 25, 40, 63, 80A
- ELCB/ RCCB current rating : 30, 100 , 300 mA



## CONZERV METER

### Features :

- EM meter series
- Multifunction meter, energy meter, & single phase and three phase voltmeter and ampere meter



## AIR CIRCUIT BREAKER

### Features :

- MVS
- Current rating : 800A to 4000A
- 3P : EDO and MDO / 4P : EDO and MDO.



## EASY PACT TVS SERIES

### Features :

- 3 Pole and 4 pole power contactor
- Current rating : 6A to 630A , AC3 rating
- Coil voltage : 24,110,220,415 V AC.
- Thermal over load relay
- Thermal overload relay range : 0.1 to 630A
- Tripping class : 10A
- Motor protection circuit breaker
- MPCB current rating : 0.16A to 32A



## HARMONY PRODUCT

### Features :

- Control & signaling units : XB5 and XB7 series
- LED lamps : 24V DC, 220V AC
- Push button : in illuminated & non - illuminated
- Selector switch : in illuminated and non-illuminated



## POWER CAPACITOR

### Features :

- MPP & APP
- MPP : standard duty, heavy duty, and gas heavy duty in both cylindrical & box type
- APP : In both cylindrical & box type



## MOULDED CASE CIRCUIT BREAKER

### Features :

- CVS Series
- Breaking capacity 25 kA to 50 kA, ICS=100% ICU
- TMD series & microprocessor based trip units (400 & 630A)
- 3P / 4P



## TESYS D SERIES

### Features :

- 3 Pole and 4 pole power contactor
- Current rating : 9A to 150A AC/DC both
- Coil voltage : 24, 110, 220, 415 and inbuilt 1NO+1NC contact
- Thermal over load relay
- Thermal overload relay : 0.1 A to 104 A
- Tripping class : 10A & 20A
- Motor protection circuit breaker
- MPCB current rating : 0.1A to 32A





ENERGY SAVING SYSTEM

SERVO MOTOR

SERVO DRIVE

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# ENERGY SAVING SERVO SYSTEM



Model Number		50LPM	64LPM	80LPM	100LPM	125LPM	150LPM	180LPM	200LPM	250LPM
PUMP	Pump Rate (cc)	28	32	40	50	63	75	90	100	125
	Pressure (bar)	160 / 180								
MOTOR	KW (SI)	10.5/12	12/15.7	15.7/19.3	19.3/24.1	24.1/31.4	31.4/35.6	35.6/35.6	35.6/48.2	48.2/59.7
	Rated RPM	2000								
	Max. RPM	2500								
DRIVE	KW	11/15	15/18.5	18.5/22	22/30	30/37	37/37	37/45	45/55	55/75
	Rated Amp	25/32	32/37	37/45	45/60	60/75	75/75	75/90	90/105	105/150

## FIELD BUS - OPTIONAL



## TYPICAL APPLICATION



Injection Molding Machine



Insert Injection Molding Machine



Hydraulic Power Press Machine

## SERVO MOTOR

- Dedicated servo motor for plastic injection molding machine & hydraulic power press
- Power range : 11kw to 55kw, rated speed : 2000rpm, Max speed : 2500rpm
- Excellent magnetic performance
- Resolver feedback
- Built In PTC & KTY
- Energy saving servo system with low noise
- Power saving up to 60 % on renovated moulding machines
- High energy saving rate, Stability & durability



## SERVO DRIVE

- Dedicated servo drive for plastic injection moulding machine & hydraulic power press
- Power range : 11, 15, 18.5, 22, 30, 37, 45, 55 kw rated voltage : 440vac
- Built in multi pump configuration
- Starup torque 180% at 0Hz for FVC
- simplified parameter for easy start up
- Communication (optional) : Modbus-RTU, CANlink / Canopen, Profibus-DP
- Enhanced reliability with conformal coating, protection against humidity and pollution dust
- Optimized pressure and flow control algorithm





***HIWIN***®

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INDUSTRIAL ROBOT -  
SINGLE-AXIS ROBOT

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BALL SCREW

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DIRECT DRIVE ROTARY TABLE

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LM Guide

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LINEAR ACTUATORS

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LINEAR MOTOR

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TORQUE MOTOR  
(Direct Drive Motor)

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SCARA ROBOT

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DELTA ROBOT

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SIX-AXIS ARTICULATED ROBOTS

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KK • SK • KE • KU • KS • KA • KM

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Rolled Ball Screw • Precision Grond • Super S Series  
Super T Series • Rotating Nut (R1) • Heavy Load Series(RD)

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RAB • RAS

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HG - Machine Tools  
RG - High Rigidity Application  
EG - Automation Industry  
MG - Medical & Semiconductor  
CG - Cover Strip for Dustproof  
QE - Highspeed Requirement  
WE - Single Axes Equipment

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122

Torque Motor Rotary Tables : TM series



123

Torque Motor Rotary Tables : TM series



123

Torque Motor Rotary Tables : TM series



123

Torque Motor Rotary Tables : TM series



# Industrial Robot Single-Axis Robot

**HIWIN®**

## KK Series

- Easy for system design, installation and maintenance
- Compact and lightweight
- High accuracy and high stiffness
- Well equipped with required accessories
- Design optimization\*

\* high stiffness + lightweight structure



## SK Series

- Easy for system design, installation and maintenance
- Compact and lightweight
- Quiet and smooth movement
- High accuracy and high stiffness
- Well equipped with required accessories
- Design optimization\*

\* high stiffness + lightweight structure



## KE Series

- Low production cost and compact
- MG series guideway used
- Closed dust-proof design
- Easy installation and maintenance



## KU Series

- Low production cost and compact
- High performance dust-proof design
- Easy installation and maintenance



## KS Series

- Dust-proof design
- Clean room class 1,000
- Precision and high speed
- Easy installation



## KA Series

- Ease of maintenance
- Low production cost
- Long strokes
- High repeatability  $\pm 0.01\text{mm}$
- Multiple motor configurations



## KM Series

- Saves on cost of engineering resources
- Saves on cost of assembly
- Saves time sourcing multiple components for system
- Hiwin servo motors and servo drives available
- Incorporates rigid and low profile KK single axis robots
- Available in 5 standard platform sizes
- Common parts across platform sizes
- System risers available
- Includes cable management
- Includes limit and home sensors



# BALL SCREW

**HIWIN®**

## ROLLED BALLSCREW

The major differences between a rolled and ground ballscrew are the manufacturing process, the lead error definition and geometrical tolerances. Hiwin rolled ballscrews are made through a rolling process of the screw spindle instead of a grinding process. Rolled ballscrews provide smooth movement and low friction which can be supplied quickly from stock, at a lower production cost



## PRECISION GROUND

Hiwin precision ballscrews are made through a grinding process of the screw spindle. Precision ground ballscrews provide high positioning accuracy and repeatability, smooth movement and long service life. These highly efficient ballscrews are a perfect solution for a variety of applications



## Super S series

The super S series uses a patented design return system that can absorb ball impact noise which greatly reduces the noise intensity and allows the ballscrew to sustain peak performance in rigorous environments. The modified return system improves the strength of the return structure which increases the Dm-N value and reduces the ball nut diameter by 18%-32%



## Super T series

The super T series circulation path has the elements leaving the ball track tangential to the PCD and coordinating with the lead angle of the ballscrew shafting. This optimal design not only reduces the noise level but also vibrations leading to smoother rotation



- Ballscrews convert rotary motion into linear motion and are most commonly used in industrial machinery & precision machines
- Hiwin corporation has the capability of producing JIS C0 class ground ballscrews, and DIN 5 class for precision rolled ballscrews, ballscrew O.D. ranging from 4mm to 120mm, and with Dm-N values up to 220,000

## Rotating Nut (R1)

Hiwin's rotating nut utilizes a special end cap design that allows the steel balls to circulate inside the nut while featuring an integral bearing that allows the ballscrew shaft to be fixed. This unique design reduces noise generated at high speeds and offers higher axial loading and stiffness



## Heavy Load Series (RD)

Heavy load ballscrews offer 2-3 times higher loading capacity than a standard ballscrew series. They have reinforced circulation systems that are suitable for high speed conditions and are able to achieve a longer service life



## DIRECT DRIVE ROTARY TABLE

### RAB Series

- Symmetric structure to minimize thermal deformation
- High acceleration, positioning requires only 0.5 seconds from 0 to 360 degree
- Rotational speed up to 100rpm, torque up to 2000Nm



### RAS Series

- Single-arm structure, small size to save machine space
- High acceleration, positioning requires only 0.5 seconds from 0 to 360 degree
- Maximum rotational speed up to 170rpm, torque up to 600Nm



- Using high acceleration, high torque, high precision and zero backlash direct drive motor with built-in pneumatic braking system

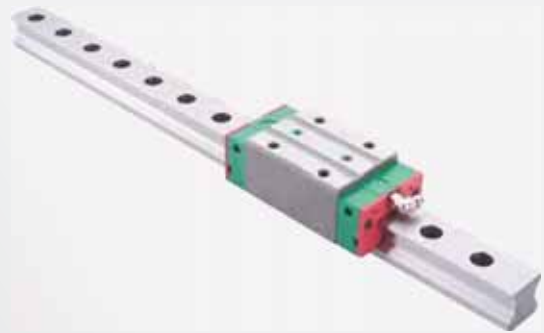
## HG - Machine Tools

Heavy load ball type linear guideway high rigidity, high accuracy, high load capacity and self-aligning capability



## RG - High Rigidity Application

High rigidity roller type linear guideway features roller as line contact element, during heavy load lead subtle latic deformation, achieving longer service life



## EG - Automation Industry

Low profile ball type linear guideway High load capacity in all four directions low-profile assembly and shorter block length is suitable for high speed industrial machine and small equipment



## MG - Medical & Semiconductor

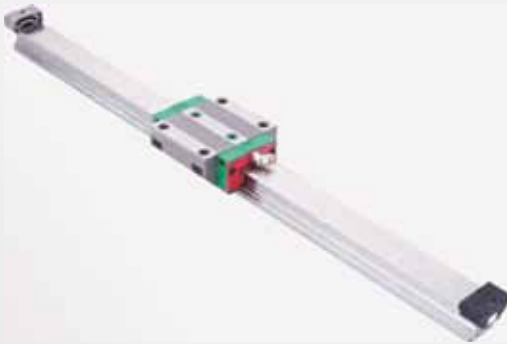
- Compact size, light weight, suitable for miniature equipment application
- Gothic four-point contact design, strong rigidity for all direct and high precision
- Steel balls are held by a retainer, interchangeable under accuracy permit



- with headquarter at taiwan and presence across all over world, hiwin is one of the market leaders in the field of lm guideways & ball screw globally. "Worldwide manufacturer of a complete line of motion control products"
- linear guideways provides linear motion by re-circulating rolling elements between a profiled rail and a bearing block, hiwin corporation offers multiple linear guideway series, each featuring different options for sizes, loading capabilities, accuracies and more

## CG - Cover Strip for Dustproof

High rigidity, high accuracy, high load capacity in all four directions, high anti-moment structure, compatible combined with high dust-proof accessories is suitable for woodworking machine



## QE - Highspeed Requirement

### Quiet Linear Guideway with SynchMotion Technology

Equipped with patented synch motion which offers low noise, smooth movement, superior lubrication and longer product life time



## WE - Single Axes Equipment

Four-row wide rail linear guideway wider rail width and low-profile design offer high torque and resistance



## Linear Actuators

Linear actuators are compact, lightweight and highly flexible products that can be found in a wide range of applications. Linear actuators utilize a gear system that is connected to a screw and is driven by a motor. As the motor operates, the gearing translates to the screw shaft, converting rotary motion into linear motion



## LINEAR MOTOR

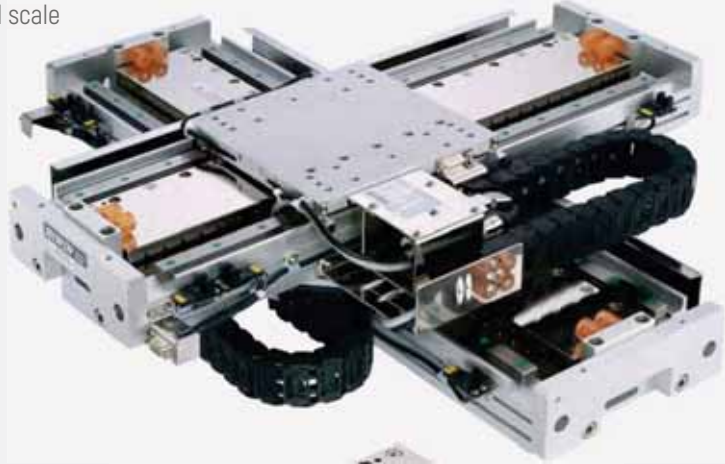
- Encoder type : TTL digital 1 micron resolution optical scale
- Equipped with coreless linear motor
- Max. Acceleration 100 m/s<sup>2</sup>
- Max. Speed 5 m/s
- Stroke range up to 4m
- Superior speed control characteristic
- Low cost, small size and high performance
- Especially rigid aluminium frame with low profile
- Simple assembly

### Application:

- Diamond shape cutting
- Diamond sawing machine

### LMCB Series Forcer

- Continuous force : 90 N & 145 N
- Peak force : 272 N & 435 N
- Continuous current : 2 Amps
- Peak current : 6 Amps
- Pole pitch : 32 mm
- In-built thermal switch
- Applicable stator : LMC series stator



## Torque Motor ( Direct Drive Motor)

### Torque Motor Rotary Tables : TM series

#### Features

- No backlash drive
- Hollow shaft
- No gear wear
- No maintenance, small size
- High torque
- Excellent dynamic characteristics
- Brushless drive
- Incremental optical scale/absolute resolver

#### Application

- Production equipment
- Assembly line
- Machine tools
- Industrial robot
- QC testing equipment

#### Torque motor : TMRW, TMRI

- Water cooled
- Large hollow shaft
- High torque
- Only require calibration before shipments, easy to install

#### Application

- CNC indexing turntable
- Machine tool industry



## SCARA ROBOT

- The SCARA robot, suitable for the ambient environment, can be applied for delivering and assembling the components, such as electronics parts
- The maximum permissible inertia can reach 0.12 kg · m<sup>2</sup>



## DELTA ROBOT

- **High speed, high accuracy and fastest cycle time :**  
Delta robot performs stable and high speed motion, with accuracy and fastest cycle time by utilizing home-made servo motors and other related key components, which has an advantage on cost compared with other competitors
- **Customized motion range :**  
Delta robot motion range can be customized to fit production line set up, changes of the original production line is not needed, achieving high speed and efficient production line configuration
- Software and hardware
- Sensor-less compliance control function
- Multiple teaching methods and direct teaching
- High speed and repeatability, excellent linearity and verticality



## SIX-AXIS ARTICULATED ROBOTS

Six-axis articulated robots are used when complex Motions, faster cycle time, and high repeatability are priorities. These Robots consist of six rotary axis with absolute encoders. This allows For unlimited orientations and point combinations while maintaining up To 20μm repeatability. Applications include pick-and-place, part Handling, assembly, light machining, inspection, scanning, and many More. Hiwin can supply complete solutions, with a hiwin electric Gripper, adapter plate, controller, and teach pendant



The Cognex logo, consisting of the word "COGNEX" in bold, black, sans-serif capital letters, is centered within a white rounded rectangle. The background of the entire page is a collage of industrial and technological images, including a barcode, a circuit board, and a network diagram, all in a muted grey tone. The right side of the page is a solid yellow color with a subtle geometric pattern of lines and dots.

**COGNEX**

2D & 3D VISION SYSTEM

BARCODE READERS

BARCODE VERIFIERS

VISION SENSOR

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## BARCODE READERS

- Variety of options available for fixed-mount, handheld & mobile solution
- Can read any symbologies of 1-D codes, 2-D codes, postal codes, DPM
- Patented technology for optimal performance and tractability
- Advance functions like 1D max, hotbars, 2D max, powergrid, HDR, HDR+, 1-D/2-D auto-discrimination, multi-code
- Modular design for maximum flexibility, liquid lens & easy setup tools & operation



## BARCODE VERIFIERS

- High-performance code quality verifier
- Generate reports to demonstrate compliance within industry standardization guidelines
- Packed with powerful lighting options, robust grading algorithms, a high-speed processing engine, and a high-resolution camera
- Only DPM verifier on the market with 30, 45, and 90° lighting options
- Fast, accurate algorithms provide reliable and repeatable results



## VISION SENSOR

- Proven, reliable cognex in-sight vision tools
- Compact, modular design with field changeable, integrated optics & lighting
- Autofocus lens eliminates the need to manually refocus or adjust the mounting height of the sensor during line changeovers
- Single-cable power over Ethernet (PoE) models simplify installation
- Monochrome and color image models with flexible mounting configurations



## 2D & 3D VISION SYSTEM

- Provide reliable, repeatable performance for the most challenging applications
- Industrial grade with a library of advanced vision tools
- High speed image acquisition and processing
- Exceptional application and integration flexibility
- Industry-leading vision technology includes deep learning, PatMax redLine™, PatMax® 3D, HDR+, SurfaceFX™
- Vision system with upto 12M monochrome and color options





**Weidmüller** 

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DRM RELAYS

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PCB CONNECTOR

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POWER SUPPLIES

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TOOL KITS

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## DRM RELAYS

### 2 CO & 4 CO electro mechanical relays

- 1CO (DPDT) = 10A or 4CO (4PDT) = 5A
- 2.500 VA switching capacity
- Models with LED, diode and mechanical test avail
- Available as kits or individual parts
- Models available with gold plated contacts
- International approvals : CE, UL, TUV
- Other voltages avail. (48, 110, 220 V DC & 48, 115 V AC)



## PCB CONNECTOR

- Mismatching protected
- Compact double row design
- Simple integration into front panel of device

### TERMINAL BLOCK

- New push in contact
- Marshalling with up to 1700 signal connections



## POWER SUPPLIES

### Single / three phase power supplies

- Single- and three-phase switched-mode power supply units
- Slim design
- Large temperature range from -25 °C to 70 °C
- Remote monitoring via integrated status relay
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals



## TOOL KITS

- Less lifetime costs due to long-lasting tools
- High process reliability





**SANYO DENKI**

DC FAN

BLOWER

CENTRIFUGAL FAN

ACDC FAN

AC FAN

AIRFLOW TESTER

PWM CONTROLLER

SAN ACE CONTROLLER

Counter Rotating Fans · Splash Proof DC Fans  
 Reversible Flow Fan · Oil Proof Fan · Long life Fan  
 Wide Temperature Range Fan · G Proof Fan

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Splash Proof Centrifugal Fan

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## DC Fan

- **Size** : 36 mm to 200 mm
- **Supply Voltage** : 5VDC/12VDC/24VDC/48VDC
- Splash proof IP54, IP55 & IP68 fans,
- Oil proof Fans capable of operating in an oil-mist environment
- Long life fans with Max. 200,000 hours of expected life
- Reversible flow fans - wind directions can be switched, same cooling performance in both direction
- Low power consumption fans, Silent fans
- Types of sensors available in fan : Pulse sensor output /Locked Rotor sensor output/PWM control function input



## Counter Rotating Fans

- **Size** : 38 mm to 172 mm
- **Supply Voltage** : 12VDC/24VDC/48VDC
- Comes with high static pressure than standard fans.
- Applications : Servers Racks, Data Storage systems, Power Supplies, ICT Equipment



## Splash Proof DC Fans

- **Size** : 40 mm to 172 mm
- **Supply Voltage** :
- IP54, IP55 & IP68 rated water & Dust protection ensures stable fan operation even in harsh environment
- It offers ideal cooling for PV Inverters, Rapid EV Charging stations and Digital Signage



## Reversible Flow Fan

- **Size** : 92 mm & 136 mm
- **Supply Voltage** : 12VDC/24VDC
- Wind directions can be switched so fewer fans required
- Equivalent cooling performance in both directions
- In applications such as cooling of beverage vending machines and food showcases as well as household ventilation & LED lights it is required to blow air in two opposite directions.
- Controlling of rotational speed and wind direction can be performed by external PWM signals to deliver an appropriate rotational speed



## Oil Proof Fan

- **Size** : 40 mm to 120 mm
- **Supply Voltage** : 24VDC
- Winding and electronic components are structurally protected by materials with excellent oil resistance so stable operation is maintained even in harsh oil mist environments.
- They are suitable for use in machine tools, industrial robots and other factory automation equipment.



## Long life Fan

- **Size** : 40 mm to 172 mm
- **Supply Voltage** : 12VDC/24VDC/48VDC
- It offers ideal cooling solutions for communications equipment, industrial inverter, fuel cells, digital signage, servers and routers.



## Wide Temperature Range Fan

- **Size** : 40 mm to 120 mm
- **Supply Voltage** : 12VDC/24VDC
- These fans can be used in a wide temperature range from -40°C to +85°C
- Suitable for low temperature refrigerators & freezers to high temperature light equipments, EV Quick Chargers, PV Inverters.



## G Proof Fan

- **Size** : 120 x 120 mm & 172 x 150 mm
- **Supply Voltage** : 24VDC/48VDC
- These fans are suitable for cooling CT scanners and other devices subject to high Vibration or G-force.



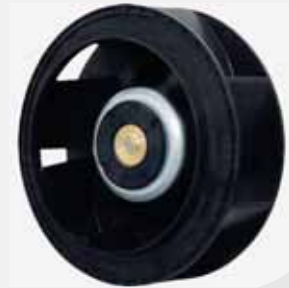
## Blower

- **Size** : 52, 76, 97, 120, 127 & 160 mm
- **Supply Voltage** : 12VDC/24VDC
- Blowers can send out straight airflow with high static pressure, making them suitable for localized and spot cooling applications.
- With high static pressure, Blowers are suitable for cooling equipment with high system impedance and high heat generation such as servers, storage systems, and base stations.



## Centrifugal Fan

- **Size** : 100, 133, 150, 175, 221, 225 & 270 mm
- **Supply Voltage** : 24VDC/48VDC
- Centrifugal fans blow air in a centrifugal course. A Centrifugal Fan can be integrated with an inlet nozzle and Brackets into a Bracket mounted centrifugal Fan. Making installation work easy. Centrifugal Fans are suitable for ICT Equipment, large scale inverter, refrigeration units, dust collectors and air conditioners.



## Splash Proof Centrifugal Fan

- **Size** : 100, 133, 150, 175, 221 & 225 mm
- **Supply Voltage** : 24VDC/48VDC
- Its IP54, IP56 & IP68 rated water and dust protection ensures stable fan operation even in harsh environments. It is suitable for outdoor ICT equipment cabinets, Rapid EV Charging stations, Digital Signage, PV Inverter, Commercial refrigerators, air conditioning & dust collectors.



## ACDC Fan

- **Size** : 92 mm & 120 mm
- **Voltage** : 100 to 240VAC
- This fan internally converts AC power to DC power. DC fan advantages such as low power consumption and long life can be enjoyed with AC power input.



## AC Fan

- **Size** : 60 mm to 172 mm
- **Voltage** : 100VAC/115VAC/200VAC/230VAC
- Our AC-powered cooling fans are known for their high reliability, and are suitable for various applications including ICT equipment, control panels, factory automation devices, and general industrial machines.



## Airflow Tester

This is a portable measuring device that enables you to easily measure the system impedance and operating airflow of devices.



## PWM Controller

Available in Box Type & PCB Type This device provides external speed control of PWM Control function fans. By using this product, PWM control function fans can be fully utilized without the need for preparing new circuits, contributing to reducing the system power consumption and the fan noise.



## San Ace Controller

This controller can perform automatic control and remote monitoring of PWM Fans. It can optimize airflow & static pressure of fans by controlling individual fan speeds. Also sensor measurements can be stored and used for automatic fan control, contributing to reduce noise and improve energy efficiency. Moreover it enables remote monitoring and control of fans via a cloud server. Value added features include fault detection and preventive maintenance measures for user equipment.



## NOTE





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