

**UNDERWOODS**



## Automation Innovation



**SCARA Robots**



**Servo Drives and Motors**



**Linear Motors**



**Inverter Drives**



**Delta Robots**

# Machine Automation Solutions



**Safety Embedded; ISO 13849-1, Cat 3**  
Dual contactors at the output of the inverter are no longer required. Direct connection to a safety controller ensures compliance to ISO 13849-1, cat 3.



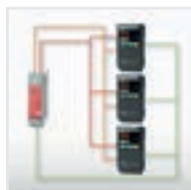
**Positioning Functionality**  
Specially developed application functionality enables the MX2 to solve simple positioning tasks without the need for an external controller. Up to 8 positions, plus home, can be selected by the user, and furthermore, the MX2 can be switched between speed and position mode.

Our Frequency Inverters, Servo Drives, robots and controllers have been designed with real customer needs in mind, meaning you can build solutions that are faster, more flexible and more reliable.



## MX2 Inverter – Born to Drive Machines

- Current vector control
- High starting torque: 200% at 0.5 Hz
- Double rating VT 120%/1 min and CT 150%/1 min
- Speed range up to 1000 Hz
- IM & PM motor control
- Torque control in open loop vector
- Positioning functionality
- Built-in application functionality (i.e. Brake control)
- Built-in logic programming
- Safety embedded compliant with ISO13849-1 (double input circuit and external device monitor EDM)
- USB port for PC programming
- 24 VDC backup supply for control board
- Fieldbus communications: Modbus, DeviceNet, Profibus, CompoNet, EtherCat, ML-II and Ethernet/IP
- PC configuration tool: CX-Drive
- RoHS, CE, cULus



### Free to Program

- Intuitive and user friendly flow chart programming
- Integrated in CX-Drive
- Up to 1000 lines in a program
- 5 tasks can run in parallel

### Ratings

- 200 V Class single-phase 0.1 to 2.2 kW
- 200 V Class three-phase 0.1 to 15.0 kW
- 400 V Class three-phase 0.4 to 15.0 kW

## SmartStep 2 Servo – Another step forward in drive simplicity



- On-line Auto-tuning and Easy set up
- Ultra-compact size
- Two torque limits
- Electronic gear, four internal speed settings and wide range of pulse settings
- Adaptive filters for suppression of vibration and resonance
- Servomotors with IP65 as standard and shaft oil seal available
- Motors with brake as option

### Ratings

- 230 VAC single-phase 50 W to 750 W (0.16 to 2.4 Nm)



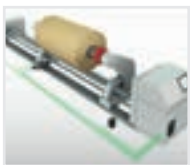
## JX – Compact and Complete

- Ratings up to 7.5kW
- Modbus built-in
- Compact size plus side by side mounting
- EMC filter built-in
- Advanced functions including PID Control
- Automatic energy saving
- Operator as standard



## RX – Customised to Your Machine

- Ratings up to 132kW
- Plain text LCD operator as standard
- Wide range of Fieldbus options including Profibus, EtherCAT, DeviceNet
- Modbus built-in
- Sensorless vector and closed loop vector control
- Dual rating
- Full logic programming as standard
- EMC filter built-in
- Application functionality such as positioning and line shaft synchronisation



## SX – Force and Flow in Harmony

- Ratings up to 800kW
- V/F or vector models
- Fan/pump and heavy duty ratings
- Standard robust IP54 design saves space and costs
- Customisation options including reactors, mains switch, Safety, networking and braking
- Active Front End version available, minimising harmonic distortion
- Fully regenerative models also available

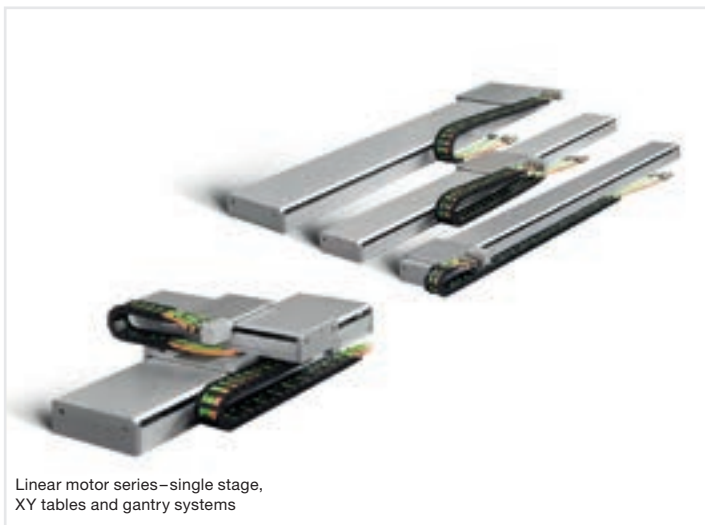


# G5 Servo – At The Heart of Every Great Machine

- EtherCAT, ML-II and Analog/ Pulse servo drive models
- Safety conforming ISO13849-1 PL-d
- High-response frequency of 2 kHz
- High resolution provided by 20 bit encoder
- Drive Programming: embedded indexer functionality in the Analogue/ Pulse models
- External encoder input for full closed loop
- Real time auto-tuning
- Advanced tuning algorithms (Anti-vibration function, torque feedforward, disturbance observer)
- IP67 protection in all motor models

## Ratings

- 230 VAC single-phase 50 W to 1.5 kW (8.59 Nm)
- 400 VAC three-phase 400 W to 15 kW (95.5 Nm)



Linear motor series – single stage, XY tables and gantry systems



Delta robots – pick and place solutions



## SCARA Robots for Industrial Applications

### Wide range providing the performance you need...

Our SCARA robots are available with payload capacities ranging from 1 to 50kg, and with arm reach from 120 to 1200mm. As well as standard designs, versions are available in dust proof and clean room, plus wall and ceiling mounting to suit a wide range of user requirements.

# Advanced Micro PLC and HMI series to complement Omron's Inverter and servo ranges

## The CP1 Family: Compact Machine Controllers with Ethernet Connectivity



### Ideal for position control

When simplicity and ease of use are essential, there is no better solution for your position applications than combining the CP1 family with servos and inverters from Omron's extensive range. The SmartStep 2 servo drive is a perfect partner and offers high performance while keeping things simple and cost effective. With the servo position feedback in the PLC, the user can monitor the actual position of the axis and use this information to co-ordinate to other axes if required. Omron provides standard PLC instructions for the SmartStep 2 to create your application with minimal effort.

### Easy Inverter drive control

Variable speed drive control is made easy within the CP1 family by using the serial port(s) and the Easy Modbus Master feature for high-speed communication. Omron Function Blocks enable you to control and monitor up to 31 inverters in real-time simply by configuration of parameters.

## NB Series: The Feature-rich, Economical HMI

Available with screen sizes from 3.5 to 10 inches, the NB series is not only complete, but also has many outstanding design features that will make it easy to create attractive HMI applications.

The combination of high quality and powerful features add up to offer outstanding value for such a cost-effective HMI family. The NB-Designer software used to create your HMI application is free of charge and can be readily downloaded from the Omron website.



**Best-in-class display**  
The robust TFT, colour touch LCD gives excellent visibility and features long-life (50,000 hours = approx 6 years) LED backlighting. Screen sizes range from 3.5 to 10 inches.



**Smart design**  
When developing the NB series, we considered every aspect of the design to give you maximum flexibility. A typical example is the portrait or landscape display mode.



**Saves you time**  
The NB series has many useful features that will make it easy to create and maintain your projects, such as the USB memory stick support.



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