



Automation for a Changing World

Delta SCARA Robots



www.deltaww.com

 **DELTA**
Smarter. Greener. Together.

Smart Robot for Industry Upgrades

Current trends affecting manufacturing include short commodity cycles, small-volume and large-variety orders, and frequent changes on production lines for multiple items. In response, Delta has launched its new Selective Compliance Assembly Robot Arm (SCARA) that helps customers control production quality for high precision manufacturing. Delta's SCARA provides flexible and variable manufacturing for customization, solves labor shortages, enhances competitiveness, and strengthens response capacity.

Delta SCARA features compliance control functions without sensors, and offers excellent speed, linearity, verticality and repeatability to rapidly and precisely perform operations such as insertion, screw locking, assembly, load and unload, pick-and-place, stacking and packaging. The automatic process path planning function fulfills industry needs for conveyor tracking processes such as gluing, deburring, coating and soldering. With the aid of Delta's machine vision systems, it can perform smart identification, inspection and sorting to effectively reduce defect rates for consistent quality delivery.

When matched with control units and other peripheral devices such as servo systems, machine vision systems and linear modules, the SCARA becomes a highly integrated work station for industries such as consumer electronics, electrical/electronics, rubber and plastic, packaging, metal fabrication and others. It satisfies requirements for both single devices and workstation applications, and enables modularized production lines and multi-products production with consistently good quality. Delta SCARA is easily applied to production automation for higher flexibility in achieving smart and efficient production, and improving productivity, quality, and labor efficiency.

A new industrial revolution is moving towards smart manufacturing and smart factories. To meet customers' needs and to be ready for the industry's future, Delta continues to accumulate field applications and experience and to provide innovative and efficient robot solutions as part of our "Automation for a Changing World".

- ▶ **Sensor-less compliance control**
- ▶ **High repeatability, high precision, excellent linearity and verticality**
- ▶ **Widely applied in various applications and industries**



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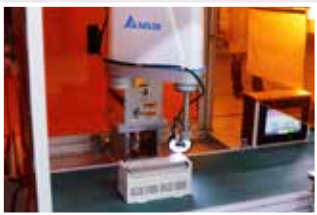
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Successful Applications

Delta SCARA has been successfully applied to improving production line efficiency and yield rates for consistent quality delivery.

Industry: Electrical/electronics, rubber and plastic, packaging, and metal fabrication

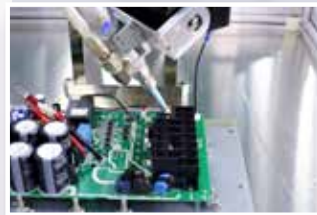
Applications: Insertion, screw driving, assembly, glue dispensing, coating, soldering, load and unload, pick-and-place, stacking, packaging, and inspection



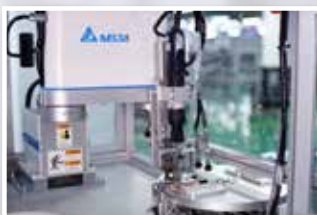
Product Inspection



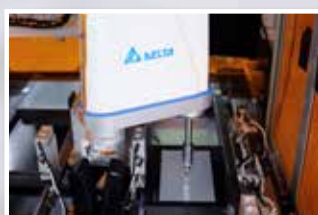
Soldering



Glue Dispensing



Screw Driving



Touch Screen Inspection

Specifications SCARA Robots

DRS40L Series

Model		DRS40L3SS1BN002		DRS40L3SO1BN002	
Number of Axes		4			
Installation		Table-top			
Arm Length (X+Y)		400 mm			
Rated / Max. Payload		1 Kg / 3 Kg			
Maximum Speed	J1+J2	4710 mm / sec			
	J3	1250 mm / sec			
	J4	1875° / sec		625° / sec	
Range of Motion	J1	±130°			
	J2	±146.6°			
	J3	150 mm			
	J4	±360°			
Standard Cycle Time *		0.42 sec			
Repeatability	J1+J2	±0.01 mm			
	J3	±0.01 mm			
	J4	±0.01°			
Rated / Max. Push Force (J3)		100 / 250N			
Rated/ Max. Allowable Inertia Moment (J4)		0.0091 Kg-m ²		0.055 Kg-m ²	
User Wiring		15Pin D-Sub			
User Tubing		ø4 mmx2, ø6 mmx1			
Weight (Without Controller)		16 Kg			
Environment	Ambient Temperature	5°C ~ 40°C			
	Storage Temperature	-25°C ~ 55°C			
	Humidity	0 ~ 90% RH (non-condensing)			

*When carrying a payload of 1Kg and reciprocating 25 mm in vertical and 300 mm in horizontal directions under an operating temperature of 25°C and within a humidity of 45% ~ 65% RH (non-condensing).

Ordering Information

DRS40L Series

DRS	40	L	3	S	S	1	B	N	002
Company/ Product/ Robot Type	Arm Length	Level	Max. Payload	Z-Axis Stroke (Horizontal Stroke)	R-Axis Speed Reduction Ratio	Generation	Controller	Teach Pendant	Identification
D:DELTA R:Robot S:SCARA	40:400mm	L:Lite	3 : 3 Kg	S : 150mm	S : Standard (1/16) O : Option (1/48)	1	B : Servo Drive (Cable Length 3m) K : Servo Drive (Cable Length 5m)	N:Non	002:Standard 4 Axes

DRS60L Series

Model		DRS60L6SN1BN302	DRS60L6SS1BN002	DRS60L3SS1BN502
Number of Axes		3	4	5
Installation		Table-top		
Arm Length (X+Y)		600 mm		
Rated / Max. Payload		2 Kg / 6 Kg		1 Kg / 3 Kg
Maximum Speed	J1+J2	5000 mm/sec		
	J3	1100 mm/sec		
	J4	N.A.	2000 ° /sec	
	J5	N.A.		600 ° /sec
Range of Motion	J1	±133°		
	J2	±153°		
	J3	200 mm		
	J4	N.A.	±360°	
Standard Cycle Time *		0.39 sec		0.45 sec
Repeatability	J1+J2	±0.015 mm		
	J3	±0.01 mm		
	J4	N.A.	±0.01 °	
	J5	N.A.		±0.01 °
Rated / Max. Push Force (J3)		150 N / 350N		N.A
Rated/ Max. Allowable Inertia Moment (J4)		N.A.	0.01 Kg-m ²	
User Wiring		15Pin D-Sub		
User Tubing		ø4 mmx1, ø6 mmx2		
Weight (Without Controller)		20 Kg		21 Kg
Environment	Ambient Temperature	5°C ~ 40°C		
	Storage Temperature	-25°C ~ 55°C		
	Humidity	0 ~ 90% RH (non-condensing)		

*When carrying a payload of 1Kg and reciprocating 25 mm in vertical and 300 mm in horizontal directions under an operating temperature of 25°C and within a humidity of 45% ~ 65% RH (non-condensing).

Ordering Information

DRS40L Series

DRS	60	L	6	S	S	1	B	N	002
Company/ Product/ Robot Type	Arm Length	Level	Max. Payload	Z-Axis Stroke (Horizontal Stroke)	R-Axis Speed Reduction Ratio	Generation	Controller	Teach Pendant	Identification
D:DELTA R:Robot S:SCARA	60:600mm	L:Lite	6 : 6 Kg 3 : 3 Kg	S : 200mm	S : Standard (1/15) N : Non	1	B : Servo Drive (Cable Length 3m) K : Servo Drive (Cable Length 5m)	N:Non	002:Standard 4 Axes 302:3 Axes 502:5 Axes

Specifications SCARA Robots

DRS50/70L Series

Model		DRS50L6SS1BN002	DRS70L6SS1BN002
Number of Axes		4	4
Installation		Table-top	Table-top
Arm Length (X+Y)		500 mm	700 mm
Rated / Max. Payload		2 Kg / 6 Kg	2 Kg / 6 Kg
Maximum Speed	J1+J2	4400 mm/sec	5500 mm/sec
	J3	1100 mm/sec	1100 mm/sec
	J4	2000° /sec	2000° /sec
Range of Motion	J1	±133°	±133°
	J2	±153°	±153°
	J3	200 mm	200 mm
	J4	±360°	±360°
Standard Cycle Time *		0.39 sec	0.40 sec
Repeatability	J1+J2	±0.015 mm	±0.015 mm
	J3	±0.01 mm	±0.01 mm
	J4	±0.01°	±0.01°
Rated / Max. Push Force (J3)		150 N / 350 N	
Rated/ Max. Allowable Inertia Moment (J4)		0.01 Kg-m ²	
User Wiring		15Pin D-Sub	
User Tubing		ø4 mmx1, ø6 mmx2	
Weight (Without Controller)		18.5 Kg	20 Kg
Environment	Ambient Temperature	5°C ~ 40°C	
	Storage Temperature	-25°C ~ 55°C	
	Humidity	0 ~ 90% RH (non-condensing)	

*When carrying a payload of 1Kg and reciprocating 25 mm in vertical and 300 mm in horizontal directions under an operating temperature of 25°C and within a humidity of 45% ~ 65% RH (non-condensing).

Ordering Information

DRS50/70L Series

DRS	50/70	L	6	S	S	1	B	N	002
Company/ Product/ Robot Type	Arm Length	Leve	Max. Payload	Z-Axis Stroke (Horizontal Stroke)	R-Axis Speed Reduction Ratio	Generation	Controller	Teach Pendant	Identification
D:DELTA R:Robot S:SCARA	50:500mm 70:700mm	L:Lite	6 : 6 Kg	S : 200mm	S : Standard (1/15)	1	B : Servo Drive (Cable Length 3m) K : Servo Drive (Cable Length 5m)	N:Non	002:Standard 4 Axes

DRS60H Series (To be launched)

Model		DRS60H6SS1BN002
Number of Axes		4
Installation		Ceiling mounted
Arm Length (X+Y)		600 mm
Rated / Max. Payload		2 Kg / 6 Kg
Maximum Speed	J1+J2	5000 mm/sec
	J3	1100 mm/sec
	J4	2000° /sec
Range of Motion	J1	±130°
	J2	±150°
	J3	200 mm
	J4	±360°
Standard Cycle Time *		0.39 sec
Repeatability	J1+J2	±0.015 mm
	J3	±0.01 mm
	J4	±0.01°
Rated / Max. Push Force (J3)		150 N / 350 N
Rated/ Max. Allowable Inertia Moment (J4)		0.01 Kg-m ²
User Wiring		15Pin D-Sub
User Tubing		ø4 mmx1, ø6 mmx2
Weight (Without Controller)		23 Kg
Environment	Ambient Temperature	5°C ~ 40°C
	Storage Temperature	-25°C ~ 55°C
	Humidity	0 ~ 90% RH (non-condensing)

*When carrying a payload of 1Kg and reciprocating 25 mm in vertical and 300 mm in horizontal directions under an operating temperature of 25°C and within a humidity of 45% ~ 65% RH (non-condensing).

Ordering Information

DRS60H Series

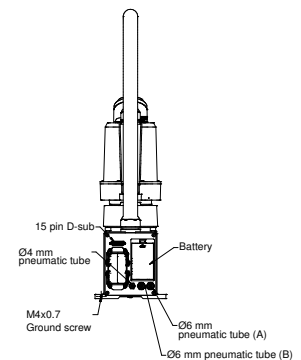
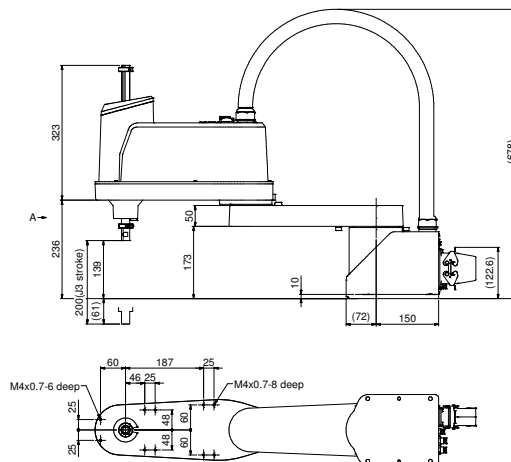
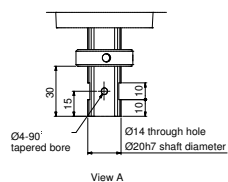
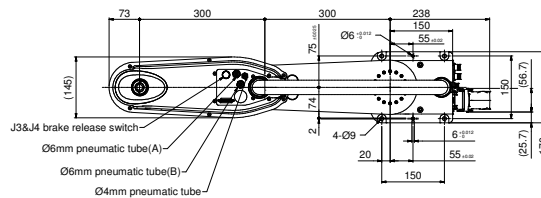
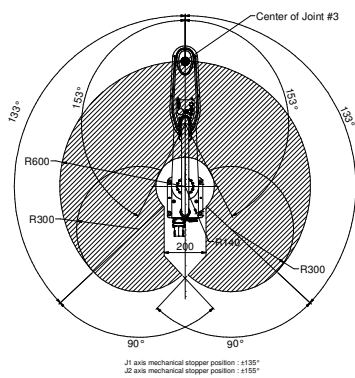
DRS	60	H	6	S	S	1	B	N	002
Company/ Product/ Robot Type	Arm Length	Leve	Max. Payload	Z-Axis Stroke (Horizontal Stroke)	R-Axis Speed Reduction Ratio	Generation	Controller	Teach Pendant	Identification
D:DELTA R:Robot S:SCARA	60:600mm	H:Hang	6 : 6 Kg	S : 200mm	S : Standard (1/15)	1	B : Servo Drive (Cable Length 3m) K : Servo Drive (Cable Length 5m)	N:Non	002:Standard 4 Axes

DRS40L3SS1BN002 / DRS40L3SO1BN002



DRS60L6SS1BN002 / DRS60L6SN1BN302

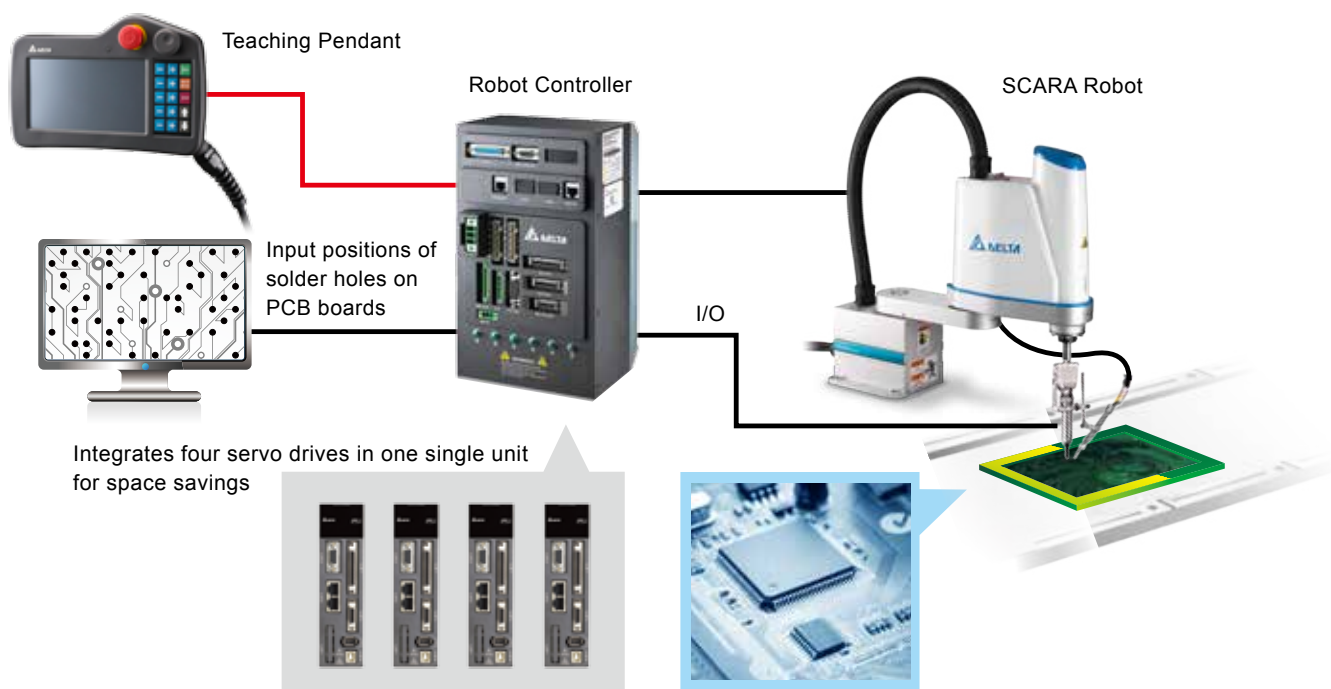
DRS60L6SS1BN002 / DRS60L6SN1BN302



Successful Applications

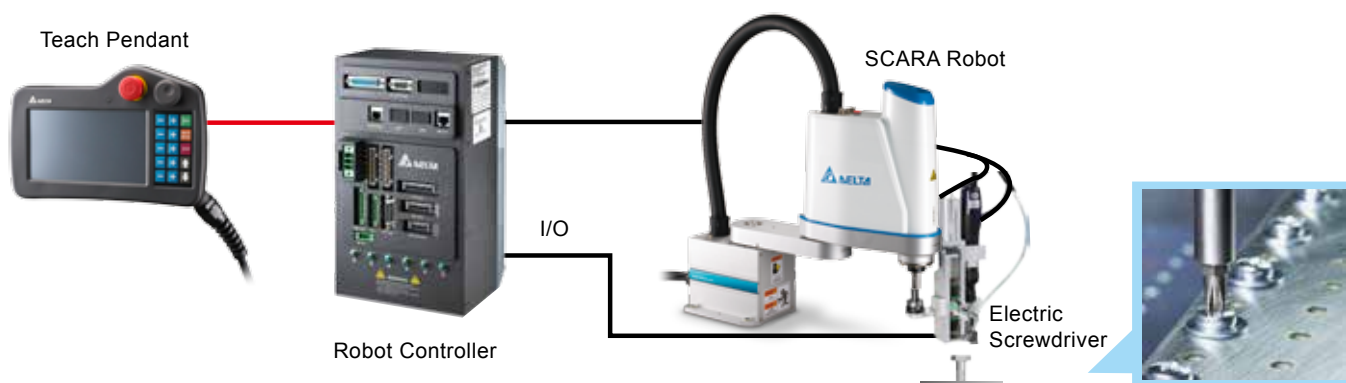
Robotic Soldering Solutions

- Robot controller with servo drive integrated for space-saving and simple wiring
- Use soldering software to transform positions of solder holes in CAD PCB files for robots to achieve fast interchangeable production
- Auto calibration function compensates deviation caused by tool changes
- The solution adopts Delta industrial automation products for easy integration and maintenance



Automatic Screw-Driving Solution

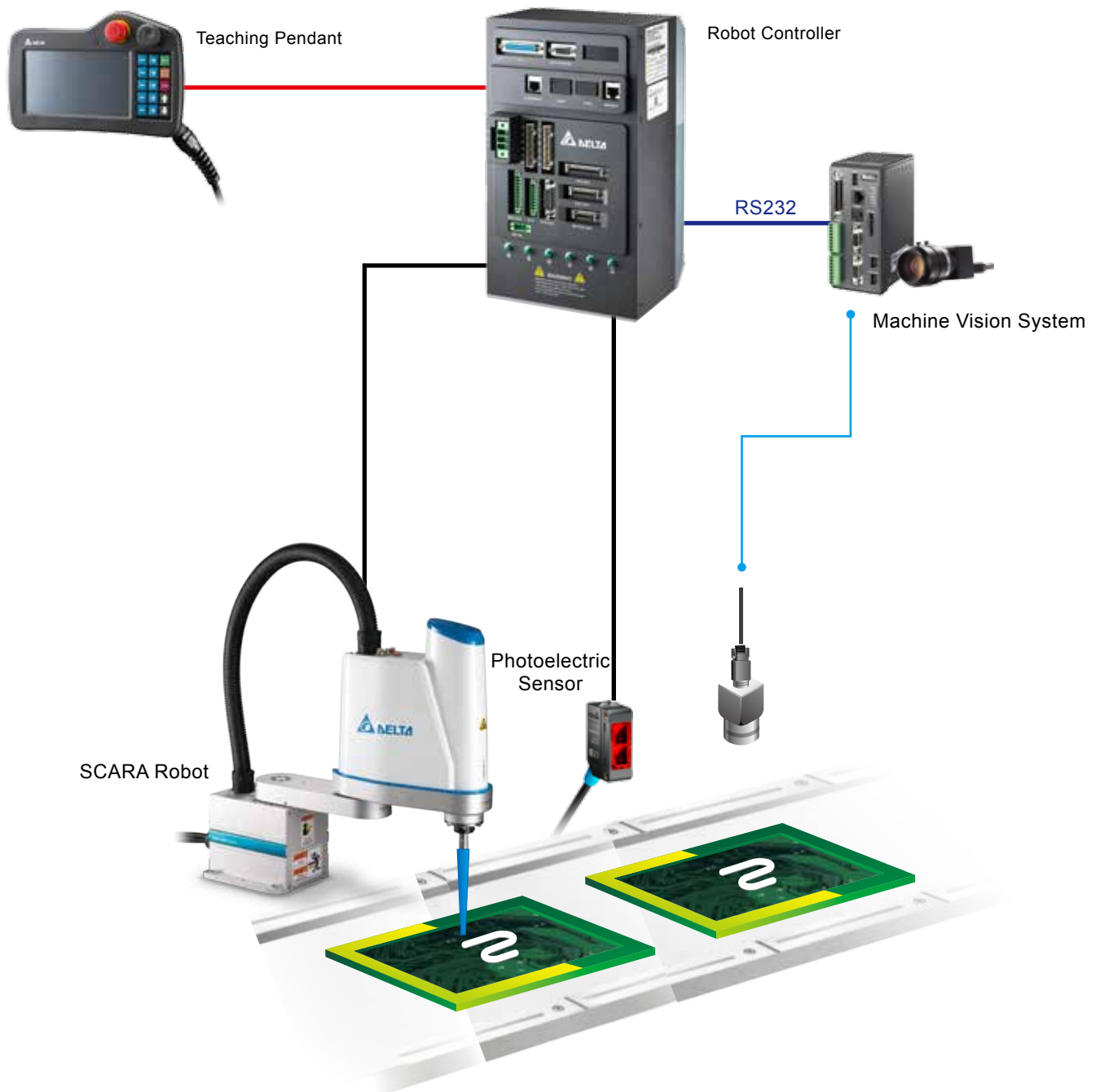
- Robot controller with servo drive integrated for space-saving and easy wiring
- SCARA delivers consistent quality with high repeatability
- Flexible robot teaching movement and motion control for interchangeable production
- The solution adopts Delta industrial automation products for easy integration and maintenance



Successful Applications

Conveyor Tracking and Glue Dispensing Solution

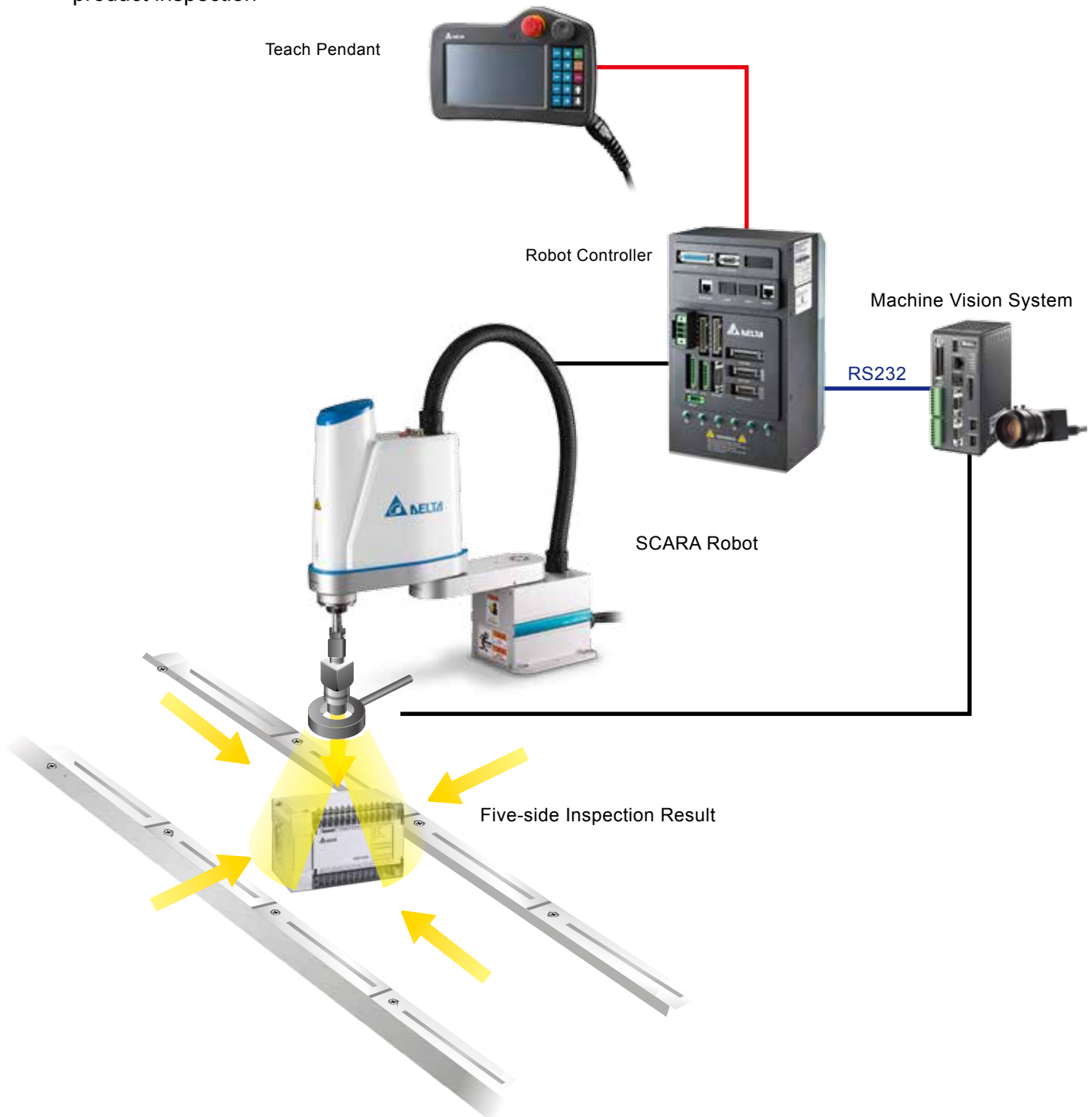
- SCARA provides fixture-less conveyor tracking with precise glue dispensing
- Synchronizes the robot and motion of the conveyor without stopping it to enhance production efficiency
- The PC-Software consists of secondary development platform for easy and flexible customization
- General communication interface easily connects different machine vision systems and modules
- Simple system configuration to perform glue dispensing during conveyance
- The solution adopts Delta industrial automation products for easy integration and maintenance



Successful Applications

Five-side Product Inspection Solution

- Robot controller with servo drive integrated for space-saving and easy wiring
- Match with machine vision system for flexible robot movement and easy interchangeable product inspection
- Adopts one communication protocol and simple wiring configuration with high reliability
- Links to MES System for optimized manufacturing and interchangeable production
- The solution adopts Delta industrial automation products for easy integration and maintenance

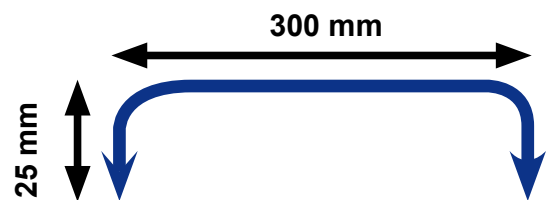


Product Features

High repeatability, high precision, excellent linearity and verticality



Product	Payload	Standard cycle time
DRS40L Series	1 kg	0.42sec
DRS60L Series	1kg	0.39sec

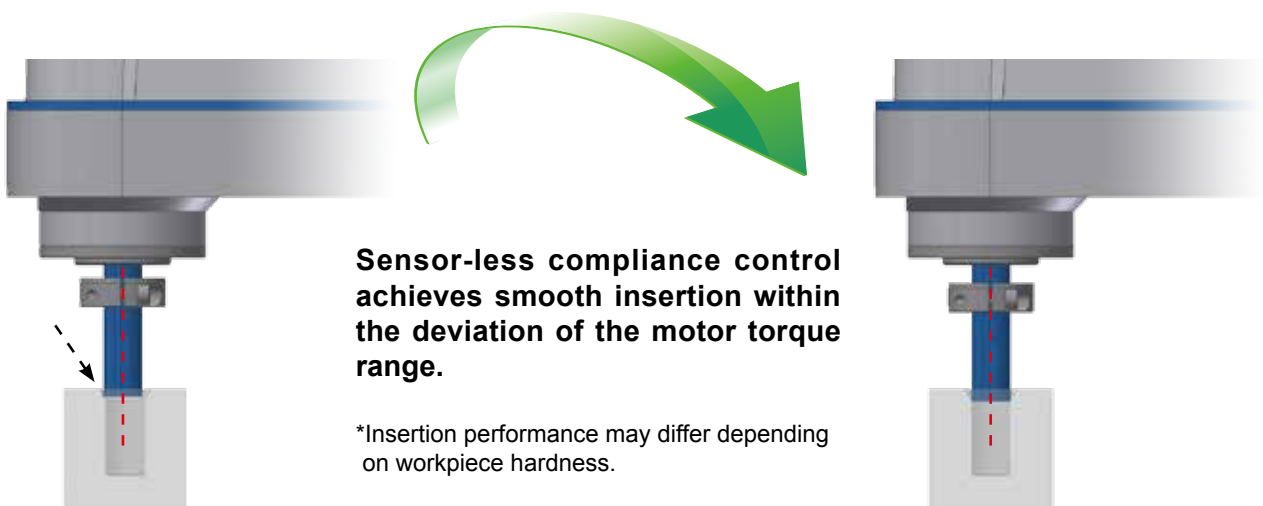


Product	DRS40L	DRS60L
Arm Length	400 mm	600 mm
Max. Payload (Payload)	3 kg	6 kg
Repeatability	±0.01 mm	±0.015 mm

Standard cycle time:

Time required for robot to move back and forth between two points 300mm apart and at a height of 25mm

Sensor-less compliance control function compensates for the deviation between workpieces and insertion holes



Simple and Easy-to-Operate with Versatile Control Approaches

► Multiple Teaching Methods



PAD



Teaching Pendant



PC

► User-friendly Robotic Integration Software

1. Built-in standard testing modules for quick testing (E.g. I/O points and motors) to save testing time
2. Standard modular program design for easy robot motion programming, high maintainability and reduce maintenance cost
3. Integrates customer's UI tools to ensure the uniqueness and completeness of individual robotics systems

Simulation Module



Programming Module



Built-in Testing Module



Customized UI Module

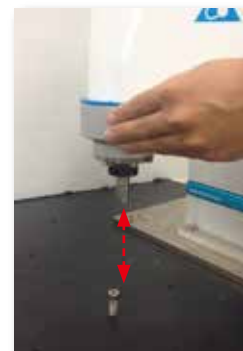


* UI = User Interface

► Direct Teaching (Lead by Hand)



Positions are directly taught and controlled by hand, and recorded by SCARA.



Robotic Integration Software

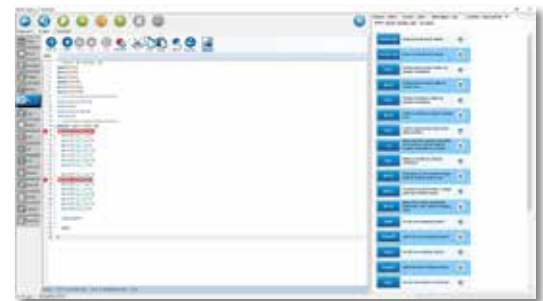
DROE Features (Delta Robot Operation Environment)

- Easy to use editing interface
- Supports articulated and SCARA robots under the same user interface with great convenience
- Create an offline simulation environment for robots



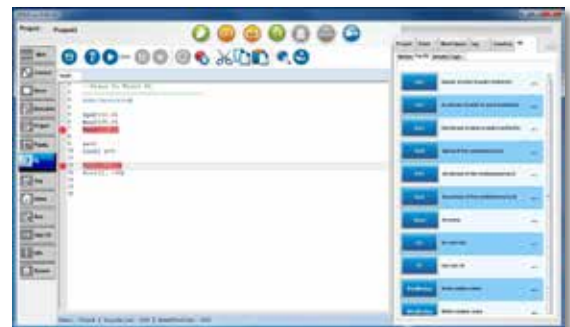
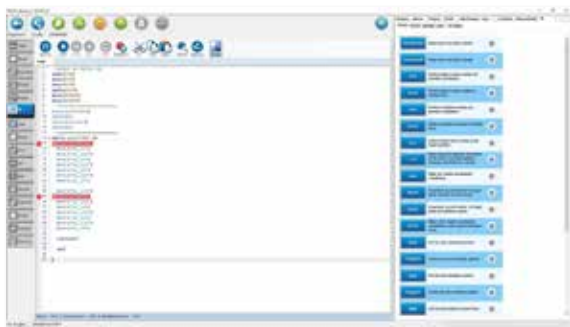
Programming Environment

- Simple graphical programming and coding for robotic arm applications
- Simplified programming languages with shorter commands to fulfill operations
- Intuitive graphics for quick and easy robotic programming
- Integrates data and signals of peripheral devices to configure user-defined interface



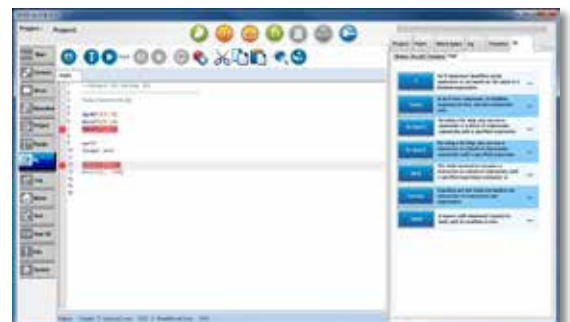
Robot Motion Commands and Parameter Setting Environment

- Motion commands including : MovJ, MovP, MovL, MovPR, MovLR, MArc, Mcircle, Lift
- Motion parameters including : SpdJ, AccJ, DecJ, SpdL, AccL, DecL, Accur



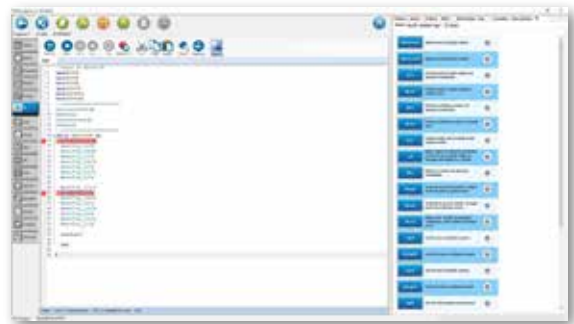
Process Control Environment Setting

- Process control commands including : if... then...end, while...do...end, fordo...end, function, repeat



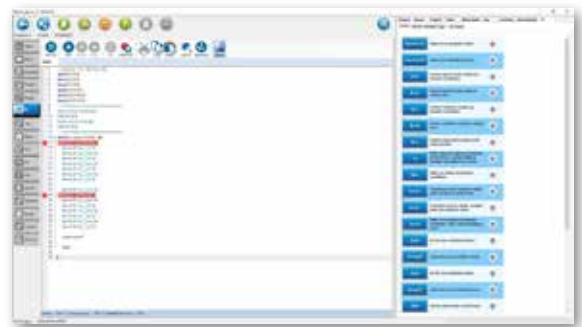
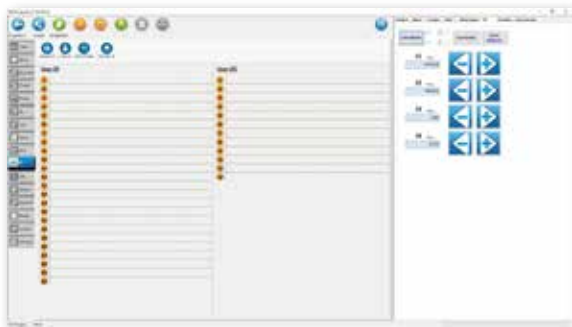
Coordinate System Environment Setting

- Coordinate commands including : SetUF, ChangeUF, SetTF, ChangeTF
- Positioning commands including : SetGlobalPoint, CopyPoint, ReadPoint, WritePoint, RobotX, RobotY, RobotZ, RobotRz, RobotHand



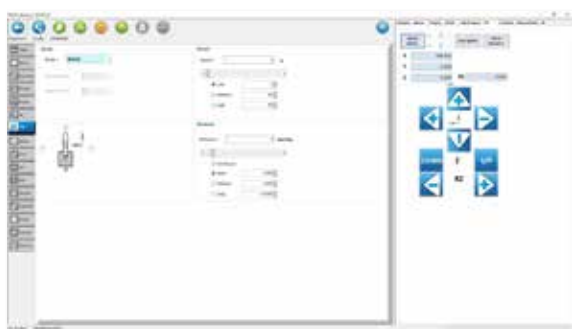
Digital Inputs and Outputs Control Environment Setting

- Provides digital I/O control commands and monitoring



Coordinate System and Movement Recording Function

- Provides coordinate system (Joint/ Tool/ User/ World) to teach robots movements
- Records real-time robot teaching movement for positioning verification



Workable Space Function

- Workable space range up to 10 sets of three-dimensional cylinder and rectangle shapes
- Limit robotic movement for safety concerns



Robotic Integration Software

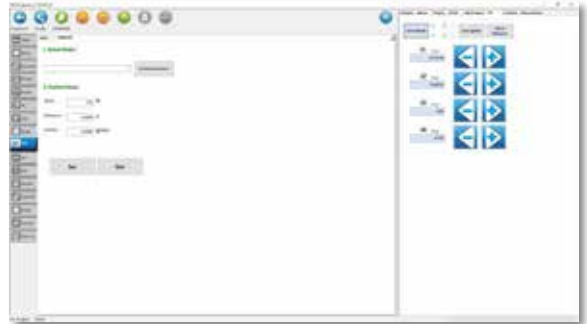
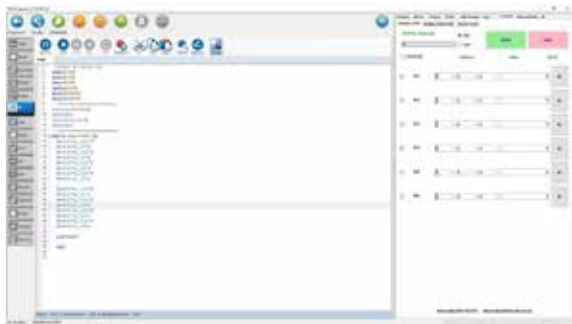
Tool Setting and User Interface

- Simple parameter setting process
- Different workable space setups for convenient integration



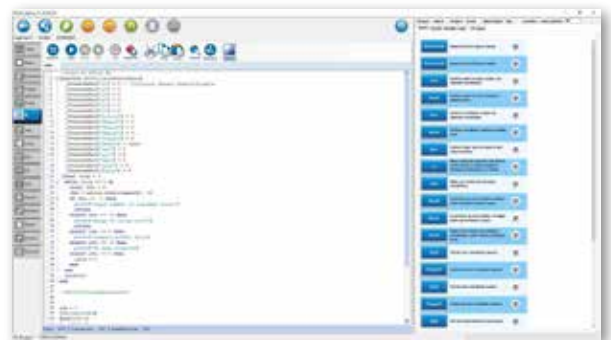
Fast Payload Adjustment and Information Transmission Function

- Quick payload setting to optimize robot systems
- Real-time monitoring information exchange between robot and peripheral devices for system efficiency



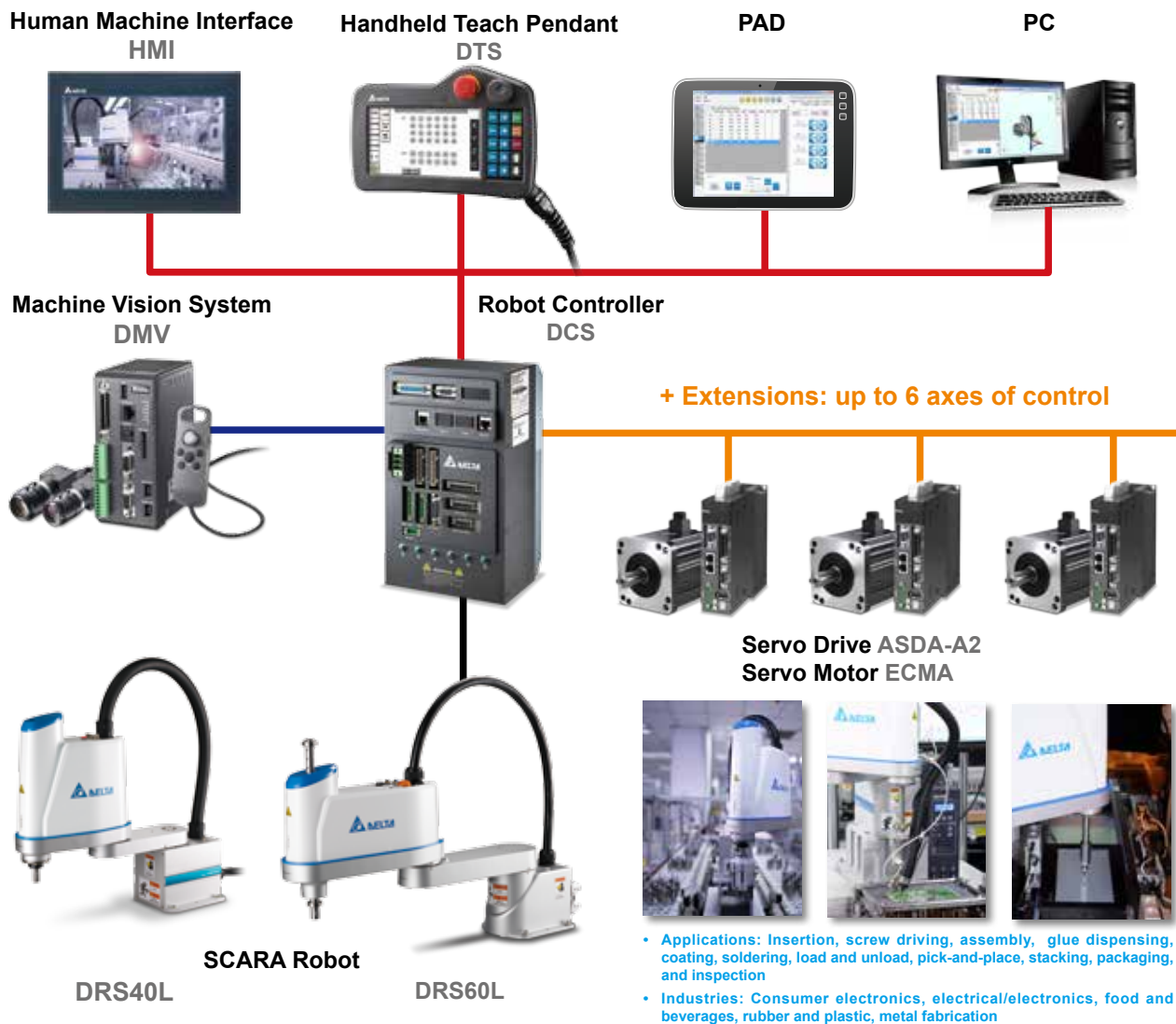
Sample Code and Templates for System Integration

- Adopt templates including vision sample code for customized applications



SCARA Robot Workstation Solution

- ▶ The simple and highly flexible robotic workstation integrates control units and other peripheral devices and allows small-volume and large-variety manufacturing for multiple items.
- ▶ Easy integration with machine vision systems achieves smart identification, inspection and automatic adjustment for consistent quality delivery.



Ordering Information

Type	Model	Specification	Description
Peripheral Devices (Hardware)	3534518900	Optional Digital Input/Output Module (STD.DIO)	Connects optional STD.DIO module connector with terminal block converter modules via built-in 1m cable
	3534518800	Optional System Input/Output Module (SYS.DIO)	Connects optional SYS.DIO module connector with terminal block converter modules via built-in 1m cable
	3081422700	Optional System Input/Output Module (SYS.DIO)	Offers converter cable and connects SYS.DIO connector with no soldering required, while the other end uses number sets; cable length: 1m

Exterior of the Robot Controller

Teach Pendant Connection Port

Used to connect the teaching pendant

High-speed Communication and Software Port

- Ethernet: Used to connect PCs or notebooks, capable of accessing data through DROE software.
- USB1, USB2: Direct connectivity to USB flash drives
- DMCNET: Used to connect DMCNET peripherals

Main Circuit Terminal (R, S, T)

Used to connect 200 ~ 230Vac, 50/60Hz commercial power supply.

Brake Control Digital Output Terminal (BRK.DIO)

STO I/O Terminal (Safe Torque Off)

Used to connect a certified safety relay or switch for controlling STO I/O signals.

Control Power Input

Used to connect DC24V power supply.

System I/O Terminal (SYS. DIO)

Serial Communication Port

For MODBUS communication control, supporting RS-485 / RS-232 serial communication.

LED Display

The 5 digit, 7 segment LED displays the controller status or fault codes.

Servo Motor Output (U, V, W)

Used to connect servo motors. Never connect the output terminal to main circuit power as the drive may be damaged beyond repair if incorrect cables are connected to the output terminals.

Standard I/O Terminal (STD. DIO)

Full-Closed Loop Control Interface (EXT. ENG)

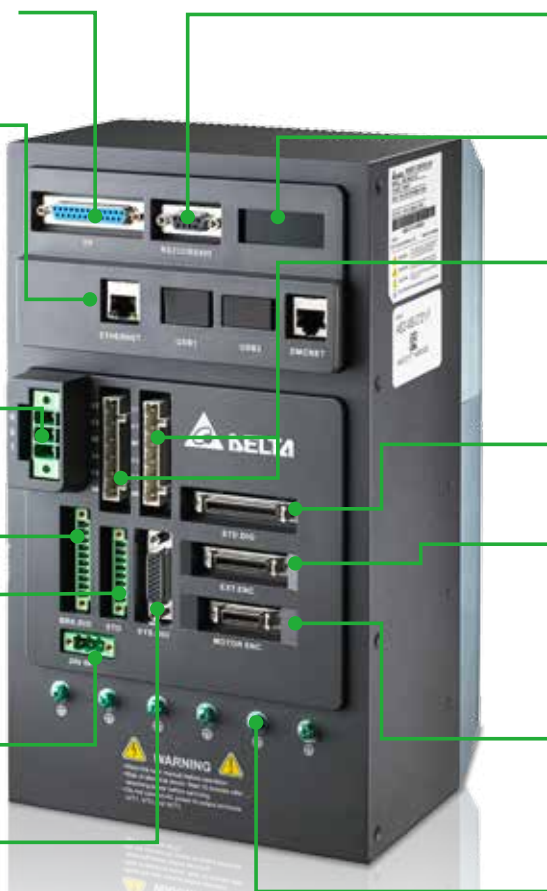
Used to connect linear scale and encoder. Feeds back the position signals of the full closed linear scale and encoder for controlling A, B, Z phase signals.

Motor Encoder Interface (MOTOR. ENC.)

Used to connect the encoder signals of four servo motors

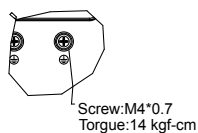
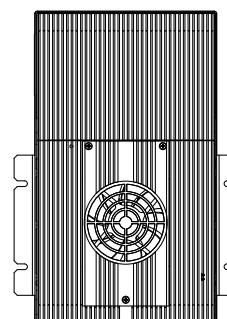
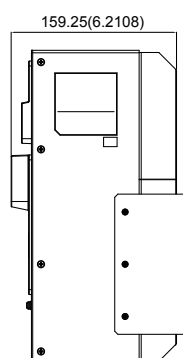
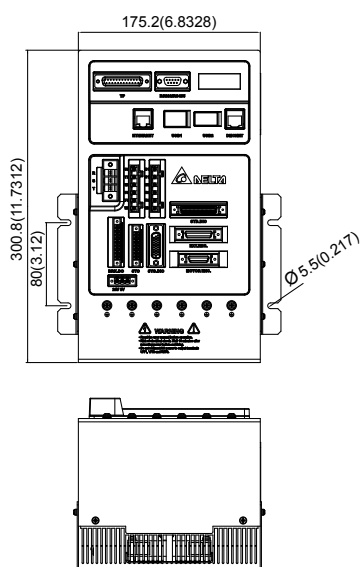
Ground Terminal

Used to connect grounding wire of power supply and servo motor.



Dimensions of the Robot Controller




Unit: mm (inch) Weight : 5.6 kg



NOTE

- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and (pounds (lbs)).
- 2) Dimensions and weights of the robot controller may be revised without prior notice.

Specifications of the Robot Controller

DCS Series		
Power Supply	Phase / Voltage	Single phase: 200 ~ 230VAC, -15% ~ 10%, 23.8A
	Control Power Supply	24V DC · -10%~10% · 5A
Dimensions (W) X (H) X (D) mm / Weight		175 mm x 300 mm x 159 mm / 5.6 kg
Cooling Method		Fan cooling
External Optical Scale or Encoder		A, B, and Z format
Robot Control	Programming Language	Delta robot language
	Motion Mode	Point-to-point motion, linear interpolation, and circular interpolation
	Memory Capacity	20MB: for programming editor and data users 16KB: for PLC SV/DV variables (without power failure detection) 60KB: for PLC DH variables (with power failure detection) 1K location point for global variables (shared among different programs) Up to 32K location point for programming
Input / Output	Standard I/O	User I/O: 24 sets of inputs and 12 sets of outputs System I/O: 8 sets of outputs and 8 sets of inputs
Communication Interface	Ethernet	One channel
	RS-232 / RS-485	One connecting port (allows switching between two communication protocols)
	DMCNET	One channel
	USB Host	Two connecting ports
Environment	Installation	Indoor (avoid direct sunlight), no corrosive liquid and gas (avoid oil mist, flammable gas, dust)
	Altitude	Altitude 1000m or lower above sea level
	Atmospheric Pressure	86kPa ~ 106kPa
	Ambient Temperature	0C ~ 55°C (If ambient temperature is above 45°C, cooling is required)
	Storage Temperature	-20°C ~ 65°C
	Humidity	0 ~ 90% RH (non-condensing)
	Vibration	9.80665m/s ² (1G) less than 20Hz, 5.88m/s ² (0.6G) 20 to 50Hz
	IP Rating	IP20
	Power System	TN system ^{*1}
Safety Certifications		IEC/EN 61800-5-1, UL 508C, RCM   

*1 TN system: A power distribution system having one point directly earthed, the exposed conductive parts of the installation being connected to that points by a protective earth conductor.

Ordering Information

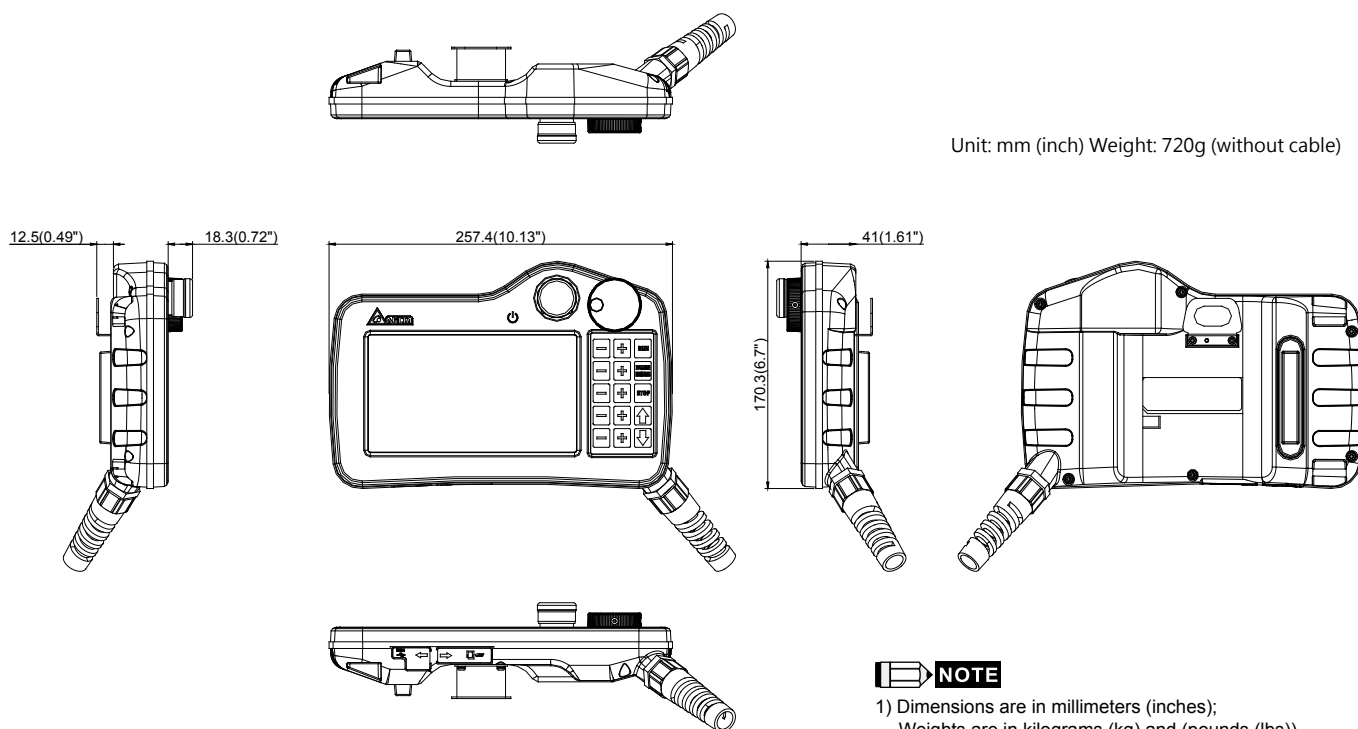
DCS Series

DC	S	1	D	0	0
D=Delta C= Controller	S=SCARA	1=Generation 1	Controller	0 = No extension axis 1 = 1 extension axis	0 = standard

Handheld Teach Pendant DTS



Dimensions



NOTE

- 1) Dimensions are in millimeters (inches);
Weights are in kilograms (kg) and (pounds (lbs)).
- 2) Dimensions and weights of the teaching pendant may be revised without prior notice.

Specifications of the Handheld Teach Pendant

Model	DTS-1FD	DTS-1GD
LCD Module	Display Type : 7" Widescreen TFT LCD Resolution (pixels) : 800 x 480 Backlight Luminance (cd/m2) : 450	Colors : 65536 Backlight : LED Back Light Backlight Lifetime (Hr) ^{*1} : 20,000
Arithmetic-Logic Unit (ALU)	CPU : 400 MHz RAM (Bytes): 64MB	Flash ROM (Bytes): 128MB Backup Memory (Bytes) : 16MB
Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 80dB	
USB	1 USB Client Ver 2.0	
SD	SD card (support SDHC)	
Ethernet	1 Port ^{*2}	
Function Key	15	
Cable Length	5 m	10 m
Emergency Stop Switch	Standards : IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL 508, CSA C22.2 No.14, GB 14085.5	
3-Position Operation Switch	Standards : EN/IEC60947-5-8, IEC60947-5-1, EN60947-5-1, JIS C8201-5-1, UL508, CSA C22.2 NO. 14 Standards : ISO12100-1 、 -2/EN12100-1 、 -2, IEC60204-1/EN60204-1, ISO11161/ prEN11161, ISO10218/EN775, ANSI/RIA R15.06, ANSI B11.19	
Safety Approval	CE	
Protection Rating	IP55	
Voltage Endurance ^{*3}	DC +24V (-10% ~ +15%) ^{*2}	
Waterproof Degree	DC24V terminal and FG terminal: AC500V, 1min	
Power Consumption ^{*5}	5.6W	
Backup Battery	3V lithium CR2450x1	
Backup Battery Life	5 years or more at 25°C, may vary due to temperature and usage condition	
Operation Temperature	0°C ~ 40°C	
Storage Temperature	-20°C ~ +60°C, 10% ~ 90% RH	
Operation Environment	10% ~ 90% RH 【 0 ~ 40°C 】 · 10% ~ 55% RH 【 41 ~ 50°C 】 , pollution degree 2	
Vibration Resistance	Conforms to : IEC61131-2, Continuous : 5Hz~8.3Hz 3.5mm, 8.3Hz~150Hz 1G	
Shock Resistance	Conforms to IEC60068-2-27; Continuous : 11ms, 15G Peak , X, Y, Z direction for 6 times	
Dimensions (W) x (H) x (D) mm	257.4 x 170.3 x 71.8 (Emergency stop button and hook included))	
Weight	750g (wire excluded)	

Note: 1) The half-life of the backlight is defined as the original luminance being reduced by 50% when the maximum driving current is supplied to the HMI.

2) Built-in isolated power circuit.

3) Adopting isolated power supplies is suggested.

4) The value of the power consumption indicates the electrical power consumed by HMI with no peripheral devices connected. To ensure normal operation, it is recommended using a power supply with a capacity 1.5~2 times the value of the power consumption.

Ordering Information

DTS Series

DT	S	1	F	D
D=Delta T=Teach Pendant	S=SCARA	1=Generation 1 (15 Key) 2=Generation 2 (21 Key)	F = Cable Length 5m G = Cable Length 10m	D= D-Sub

Machine Vision System

DMV2000

- Multiple cameras work synchronously for multi-tasking to enhance efficiency and save development costs
- Image auto calibration and lens distortion correction function
- New user-friendly operation interface
- Smart operation flow and interface for faster programming
- Built-in multi-functional developing tools
- Provides digital I/O and flash control module for various applications
- Superior hardware specification to same grade products. Achieves high-speed processing
- High-speed cameras with CameraLink interface
- Ethernet, RS-232, RS-485 interfaces for data output
- Passes high industrial standards superior to PC-based systems
- Built-in PLC communication reduces program compilations
- Self-defined display and operation interfaces in RUN mode



Product Types

Three types for different applications

- **Advanced model:** Maximum 4 or 8 cameras connectable; advanced performance; large storage; supports USB 3.0 and Micro SDXC
- **Standard model:** Maximum 2 or 4 cameras connectable; standard performance; standard storage
- **Basic model:** Maximum 2 cameras connectable; basic performance; basic storage; supports GigE camera

High-speed cameras with CameraLink interface

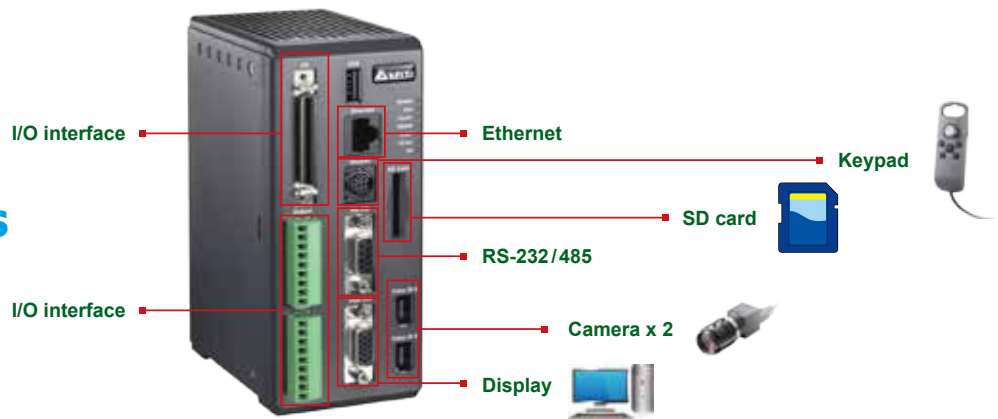
Supports high-speed CameraLink Full configuration with maximum frame rate up to 480 fps

Supports maximum 12 M pixels in gray scale and color using standard CameraLink cameras

Resolution (Mega Pixels)		0.3M	2M	4M	5M	12M
Level	Mono	√	√	√	√	√
	Color	√	√	√	√	√
Frame Rate		480fps	295fps	159fps	16fps	50fps
Pixel Dimensions (Horizontal x Vertical)		642 × 484	2048 × 1088	2048 × 2048	2448 × 2058	4096 × 3072
Sensor Size		1/3"	2/3"	1"	2/3"	1.76"
Pixel Size (Horizontal x Vertical)		7.4 × 7.4 μm	5.5 × 5.5 μm	5.5 × 5.5 μm	3.45 × 3.45 μm	5.5 × 5.5 μm
Lens Mount		C Mount	C Mount	C Mount	C Mount	M42

DMV1000

Part Names and Functions



- **I/O Interface 1**: Parallel I/O interface, one 50-pin mixed input/output terminal block
- **I/O Interface 2**: Input/Output European-type terminal blocks, one 9-pin output terminal block and one 9-pin input terminal block
- **Ethernet**: Connects to PC for images transfer and process
- **Keypad**: Special keypad used to setup and operate with the DMV1000 system
- **SD card**: Stores programs, parameters, records and images of the DMV1000 system
- **RS-232/485**: Connects to Delta's PLC or other brands of controllers rapidly through standard RS-232 communication without complicated user-defined programs
- **Camera**: Connects to two standard 1394a cameras
- **Display**: Standard SVGA output interface

Controller and Optional Accessories

Controller	Keypad	Camera	Cable
			
DMV1000-80GXC	DMV1000-KEY	DMV-CDA80GS (Grey scale, standard) DMV-CDA30GS (Grey scale, standard)	DMV-CA45 (4.5 m standard)

Lighting

			
DMV-PS12C1 DMV-PS12C2 DMV-CA30P	DMV-BL60R	DMV-CX40W	DMV-DR6736R DMV-DR6736W DMV-DR6736D

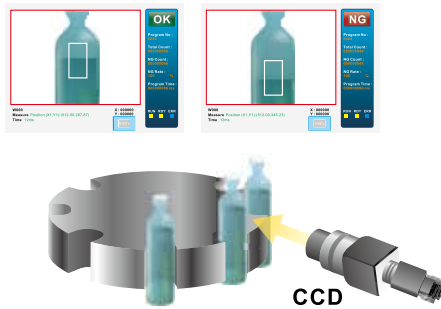
Specific Lenses for Industrial Cameras

					
DMV-LN08M (focal length: 8 mm, Mega-pixel)	DMV-LN12M (focal length: 12 mm, Mega-pixel)	DMV-LN16M (focal length: 16 mm, Mega-pixel)	DMV-LN25M (focal length: 25 mm, Mega-pixel)	DMV-LN35M (focal length: 35 mm, Mega-pixel)	DMV-LN50M (focal length: 50 mm, Mega-pixel)

Applications

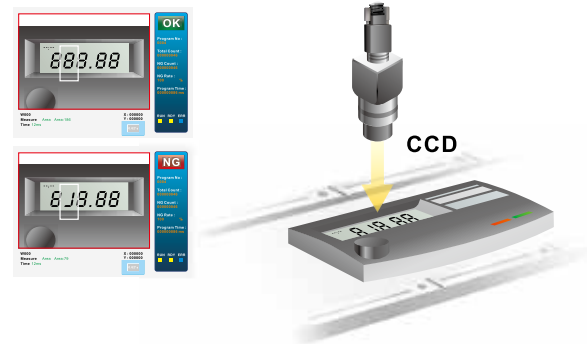
Beverage Packing Inspection

Inspects the liquid level of each bottle



Character Inspection

Inspects the characters on electronic devices



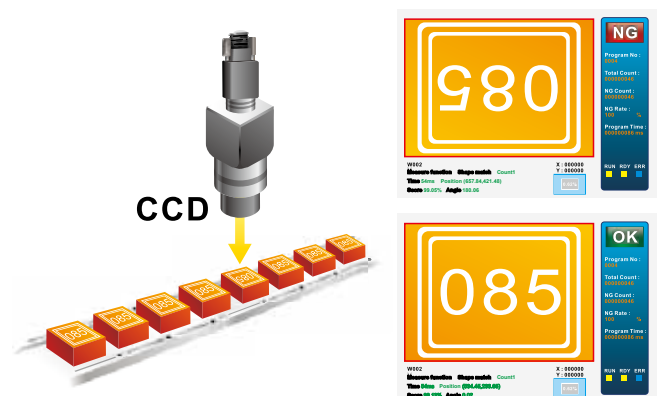
Bottle Cap Position Identification

Identifies the bottle capping position



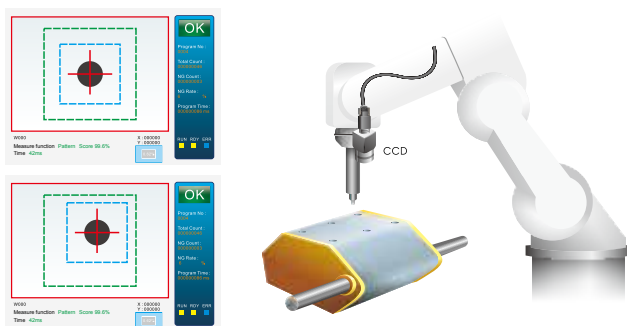
Direction Identification

Inspects the direction of work pieces conveyed on a production line



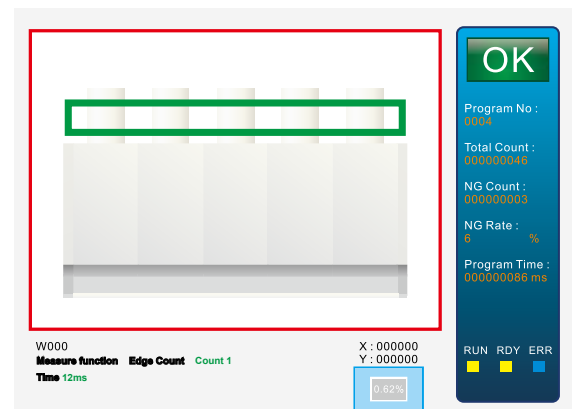
Positioning

Positionings control integrated with robot



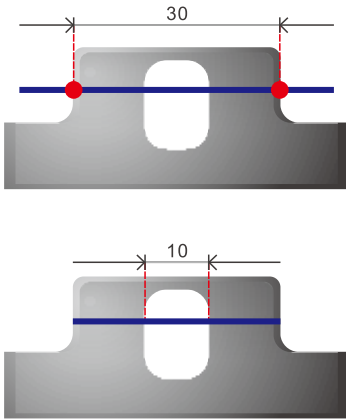
Pin Number Counting

Counts connector pin numbers automatically



Dimensions Measurement

Measures the dimensions of components automatically



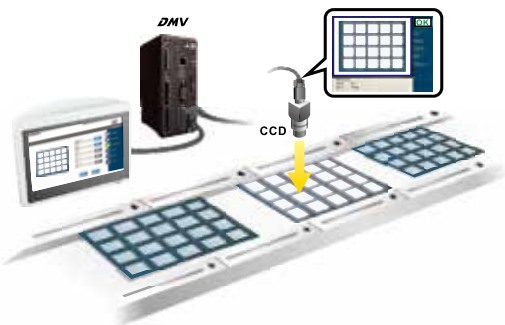
Alignment System

Aligns the positions of PCB and TFT panels automatically



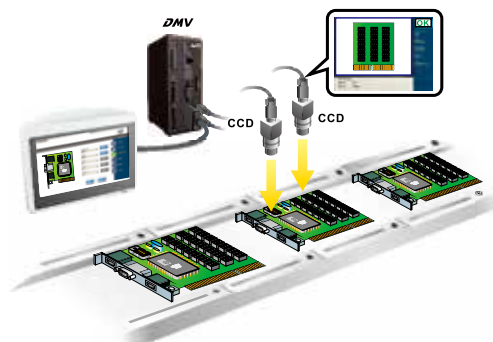
Luminance Inspection

Inspects LED luminance automatically



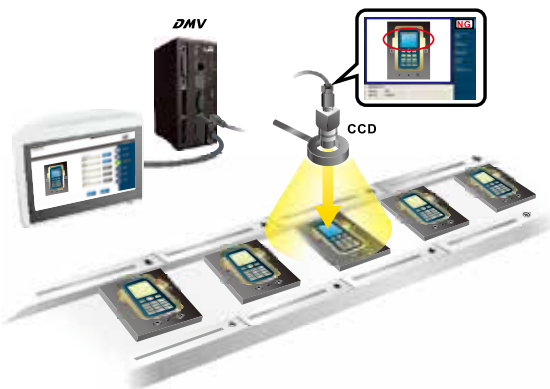
Position Identification

Inspects the position of IC components on PCB boards



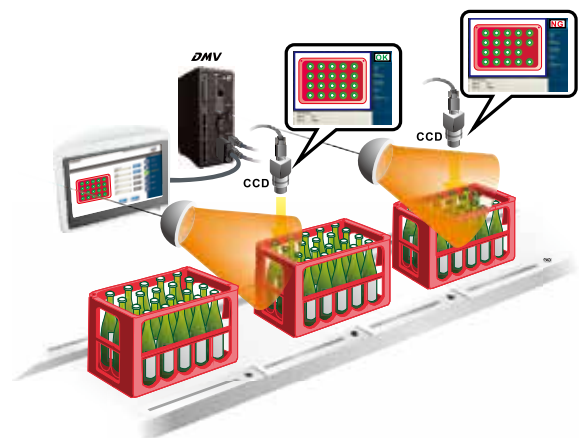
Module Inspection

Inspects the normality of mobile phone modules, such as touchscreens and push buttons



Object Counting

Counts the quantity of objects in a basket or carton





Smarter. Greener. Together.

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