



Digitized Automation for a Changing World

# **DIAStudio** **Smart Machine Suite**

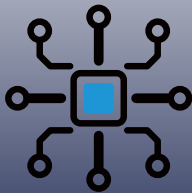
# **DIAStudio Smart Machine Suite**

## **Save Time. Bring Convenience to Your Design.**

The increasingly complex applications in industrial manufacturing demand higher requirements for automation technology regarding performance, functionality and efficiency. Delta has developed the **DIAStudio** Smart Machine Suite to fulfill these market requirements.

The **DIAStudio** is an integrated and unified engineering platform that helps you to efficiently develop machinery systems by selecting appropriate products, programming, and export. Machine makers can develop an integrated control system using one software. The **DIAStudio** integrates IEC61131-3 programming, parameter configuration, machine tuning, and human machine interface (HMI) settings as a unified engineering platform for Delta's PLCs, HMIs, servo drives & motors, and AC motor drives. It simplifies programming processes, saving time and cost for machine makers in building machinery systems.

**Digitalized Platform**



**Standardized Engineering**



**Efficiency Flexibility**



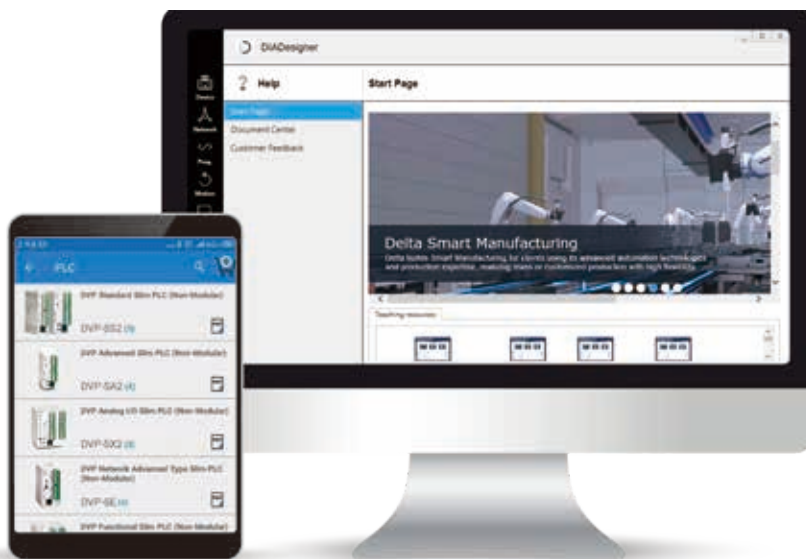


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# What is DIAStudio?

## **DIAStudio** Smart Machine Suite



An **all-in-one integrated engineering platform** for

- Efficient machinery system development*
- Product selection*
- Programming*
- Configuration*
- Commissioning*
- Visualization*

**Simplifies the execution of tasks and reduces system setup and configuration time**

## DIASelector

Quick, easy and smart selection tool



- Product Selection

## DIADesigner

Integrated development & engineering software



- Programming
- Configuration
- Commissioning

## DIADesigner-AX

Motion development & engineering software



- Programming
- Configuration
- Commissioning

## DIAScreen

Intuitive visualization software

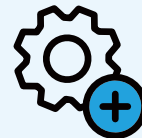


- HMI Programming
- DIADesigner TAG Sharing

## Commissioning Features



Parameter Editor



Gain Tuning



Motion Control Setting



Oscilloscope



Device Setting Wizard



Status Monitoring

# What is DIAStudio?

## DIA Designer (Development & Engineering) + DIAScreen (Visualization) System

### ■ DIA Designer supports:

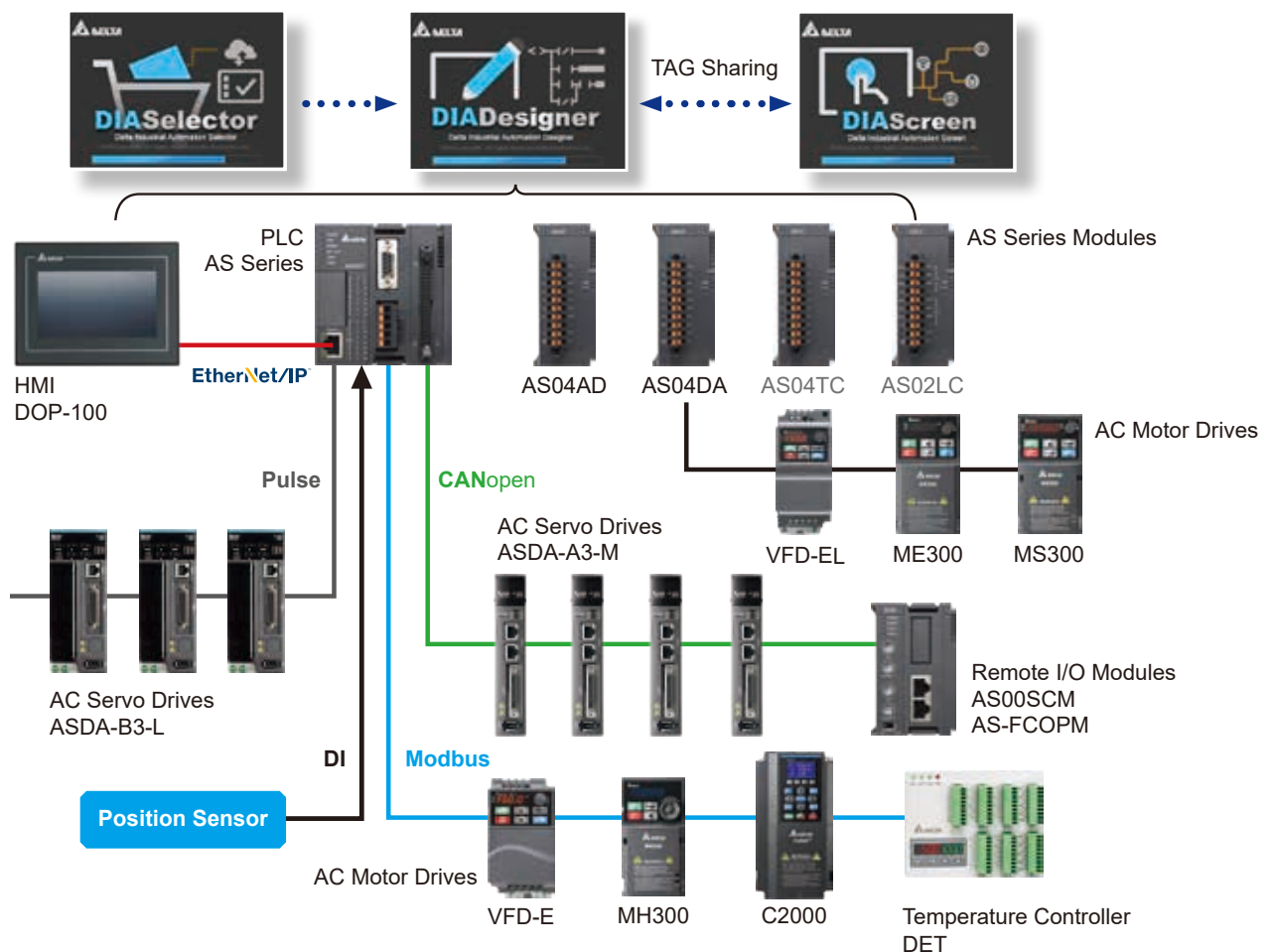
- Controllers: Mid-range PLC AS Series (AS300/AS200/AS100\*/AS500E\*/AS500C\*)
  - Motion: AC Servo Drive ASDA-A2/B2, ASDA-A3/B3 (L, M, E\*)
  - Drives: AC Motor Drive VFD-EL, VFD-EL-C, C2000/CH2000/CP2000/CFP2000, MS300/ME300/MH300 Series
  - Remote I/O Modules: AS-FCOPM (CANopen), AS-FEN02 (EtherNet/IP, Modbus TCP)
  - Temperature Controllers: DTC, DTE\* Series
- (\* AS100, DTE, AS500E, AS500C, ASDA-A3, and ASDA-B3-E will be supported in the 2nd half of 2021.)

### ■ DIAScreen supports:

- HMIs & Text Panels: DOP-100 Series, TP Series

### ■ Fieldbus: Modbus, CANopen, Modbus TCP, EtherNet/IP

### ■ Applications: Packaging machines | Electronics manufacturing | Labeling / textile machines



## DIADesigner-AX (Motion Development & Engineering) + DIAScreen (Visualization) System

### ■ DIADesigner-AX supports:

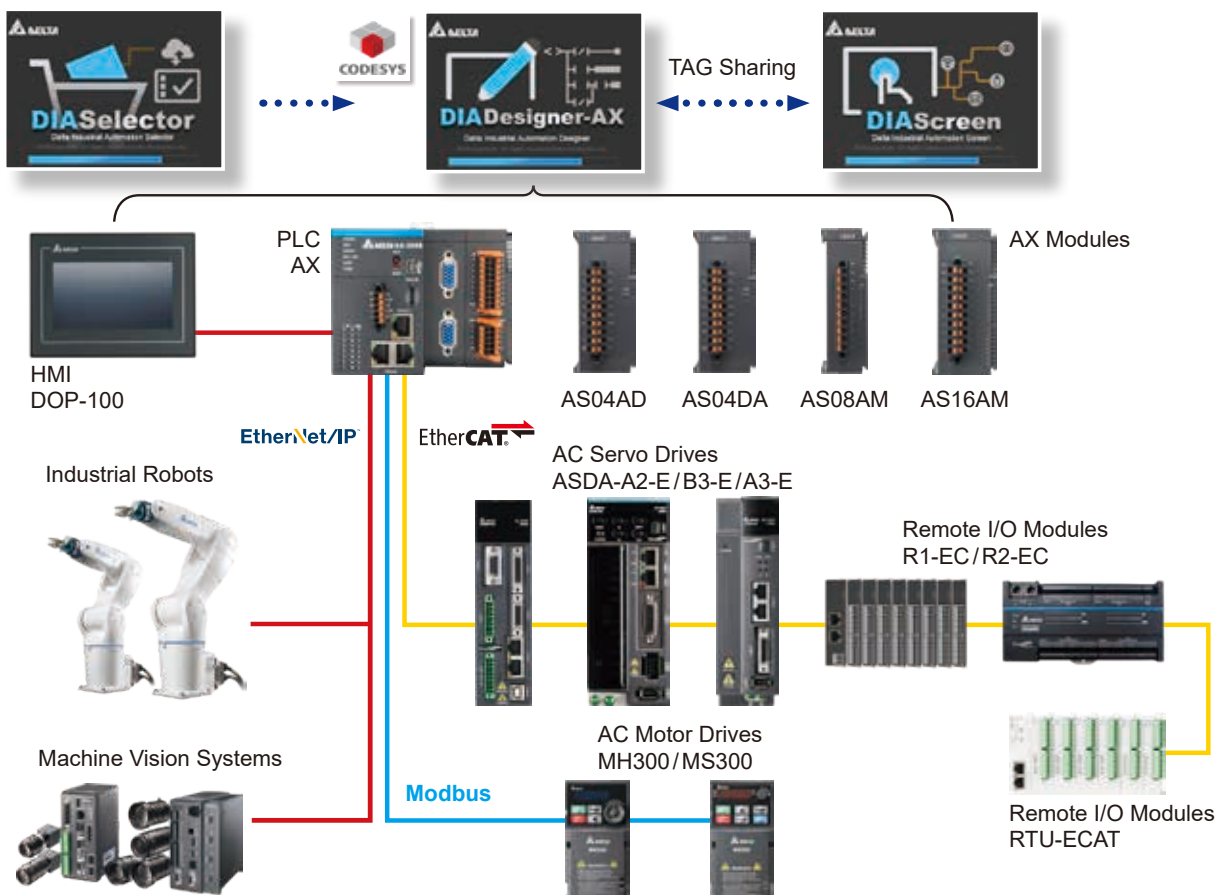
- Motion Controllers:
  - PLC-based Controller: AX-308E, AX-364EL Series
  - PC-based Controller: AX-8 Series
- Logic Controllers: AX-300N, AX-324N
- Motion: AC Servo Drive ASDA-A2-E/ASDA-A3-E/ASDA-B3-E Series
- Drives: AC Motor Drive C2000 series, MS300/MH300 Series
- Remote I/O Modules: RTU-ECAT Series, R1-EC/R2-EC Series

### ■ DIAScreen supports:

- HMIs & Text Panels: DOP-100 Series, TP Series

### ■ Fieldbus: EtherCAT<sup>®</sup>, EtherNet/IP<sup>™</sup>, Modbus, Modbus TCP, OPC UA (Server)

- Applications: Electronics manufacturing | Material Handling | Logistics | Multi-axis motion control equipment



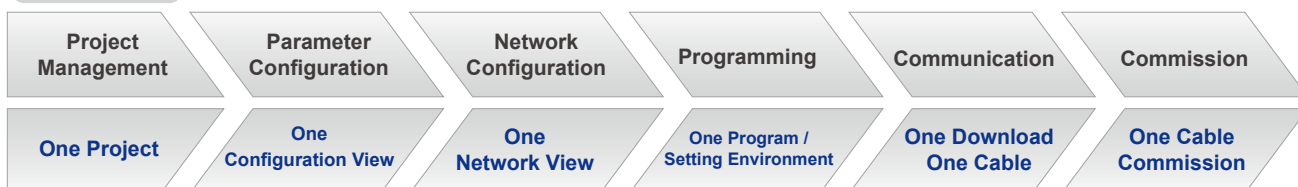
# DIA Designer

## Integrated Development & Engineering Software

Provides a programming environment for machine system developers to enhance system configuration and development efficiency

- IEC61131-3 programming environment
- Integrates project, configuration, programming, commission, and monitoring in a simple environment

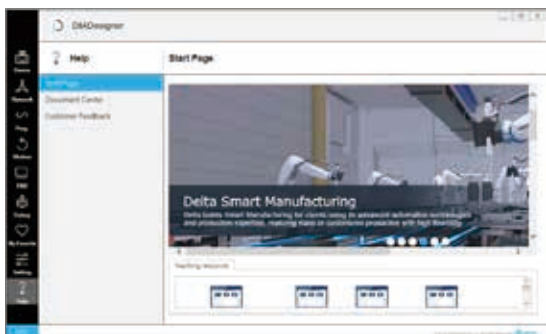
### Processes



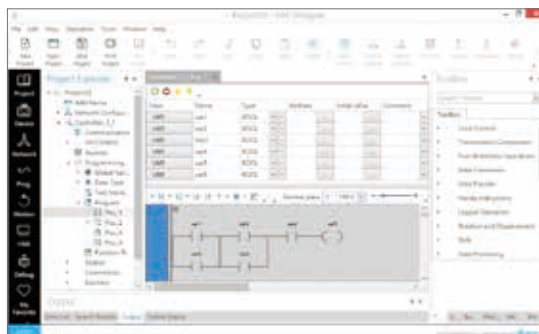
## User-oriented Project Management

- Basic designer view: Wizard Design for operation guidance
- Advanced designer view: Complete functions via menus

Basic designer view



Advanced designer view



## Supports IEC61131-3 Standard Programming Languages



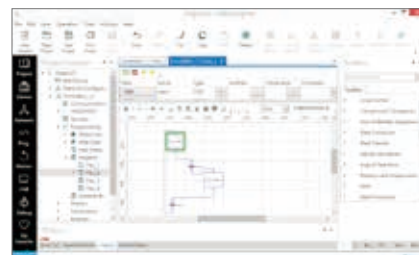
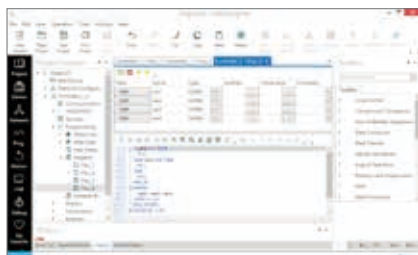
Ladder Logic



Structure Text



Sequence Function Chart







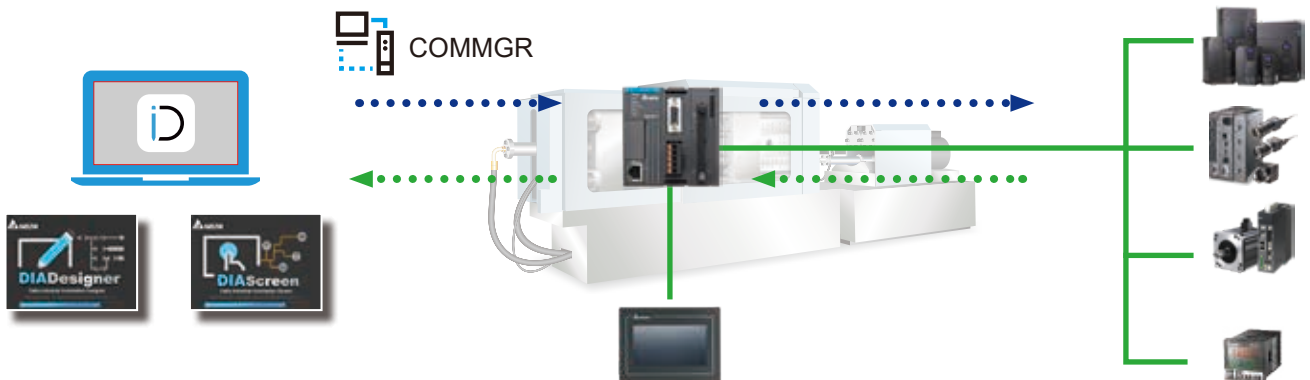
## Data Management

- Variable sharing with DIAScreen without import/export



## One-Cable Communication

- Integrates multiple protocols in COMMGR
- Requires only one cable to transfer the parameter configuration to the project



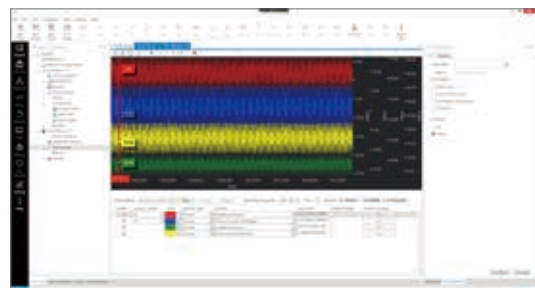
## Intuitive Topology Configuration

- Supports topology to configure the device protocols in the project via a user-friendly system



## Commissioning Tool

- Provides parameter management, gain tuning, motion control setting, oscilloscope, device setting wizard, and status monitoring



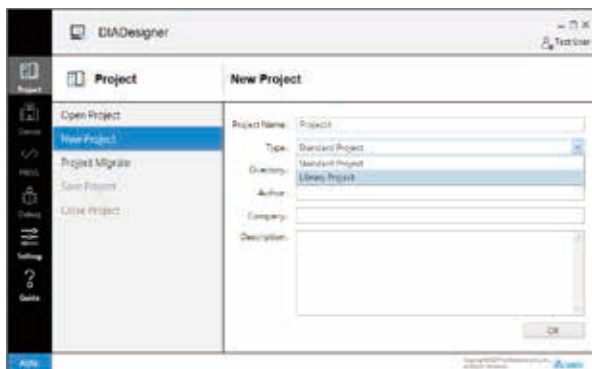
# DIA Designer

## Integrated Development & Engineering Software

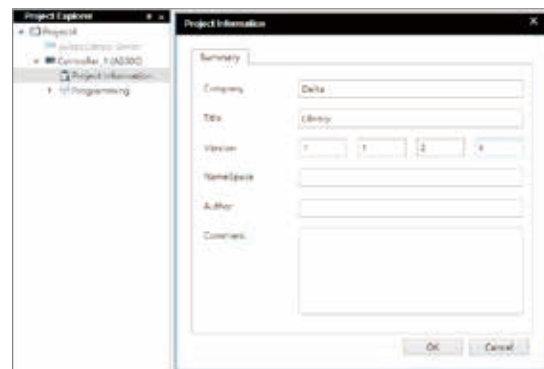


### Library Manager

- Proven library manager for the reutilization of applications
- Supports a library for HVAC applications
- User-definable library applications



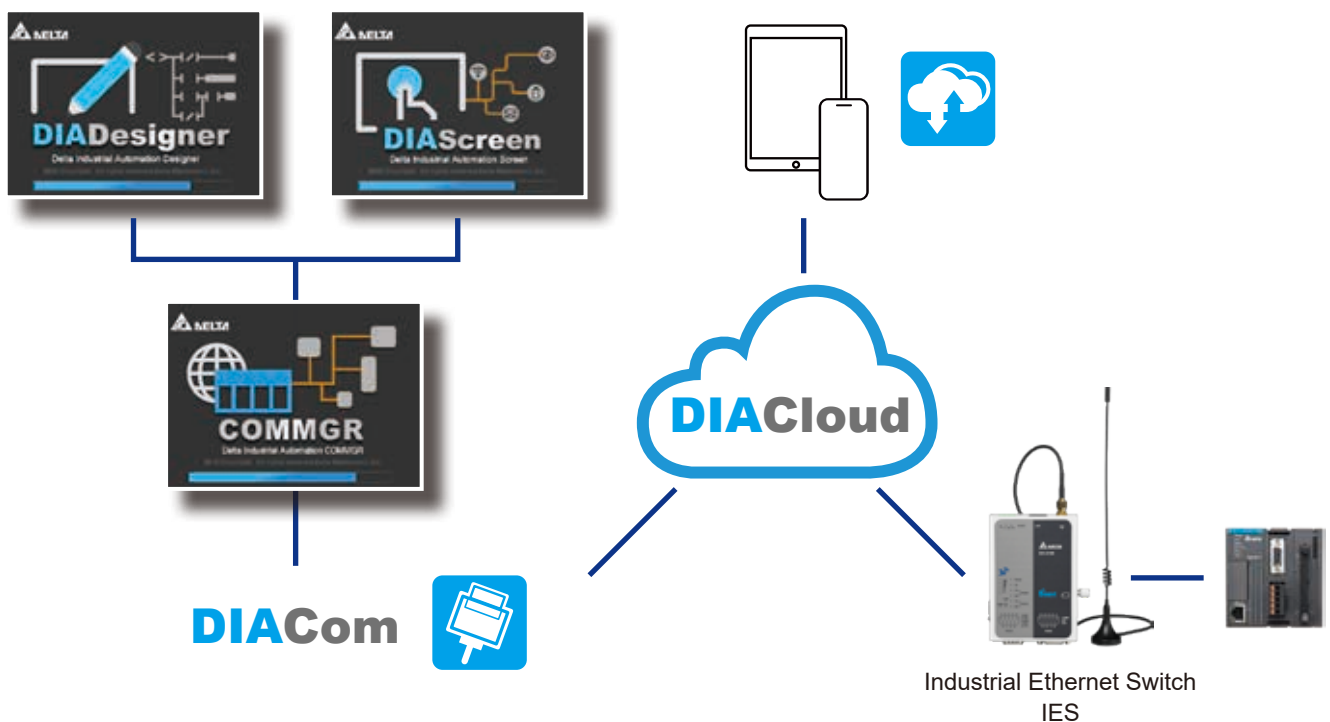
Library Project



Library Management

### DIACloud Communication

- Supports DIACloud platform communication via DIACom channel
- Router read/write data from device via DIACloud
- Combines with Delta's cloud routers to construct IoT for more automation applications and upgrades


















# DIADesigner-AX

## Motion Development & Engineering Software



DIADesigner-AX is a programming tool compliant with IEC 61131-3 for Delta's new generation motion controller – AX series. It adopts a large number of application instructions, especially Motion library. The multilingual environment and user-friendly interfaces provide users with a convenient and efficient development environment.

- Standard IEC 61131-3 programming and unified integrated software
- Open and modular Platform to allow secondary development for customized functionalities and components by users with industry know-how
- Motion control programming based on standard PLCopen motion control
- Tags Sharing between DIAScreen and AX Series controllers variables sharing for easy operation

<p><b>Motion Software</b></p>			
<p><b>Motion Controllers</b></p>	<p style="text-align: center;"><b>PC-Based</b></p> <div style="text-align: center;">  <p>AX-8 series</p>  </div>	<p style="text-align: center;"><b>PLC-Based</b></p> <div style="text-align: center;">  <p>AX-3 series</p>  </div>	<p style="text-align: center;"><b>HMI</b></p> <div style="text-align: center;">  <p>DOP-100</p> </div>
<p><b>Field Devices</b></p>	<p style="text-align: center;"><b>Servo Drives</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>ASDA-A2-E</p>  </div> <div style="text-align: center;"> <p>ASDA-A3-E</p>  </div> <div style="text-align: center;"> <p>ASDA-B3-E</p>  </div> </div>	<p style="text-align: center;"><b>Remote I/O Modules</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>R1-EC</p>  </div> <div style="text-align: center;"> <p>R2-EC</p>  </div> </div> <div style="text-align: center; margin-top: 10px;"> <p>RTU-ECAT</p>  <p>(EtherCAT Remote I/O)</p> </div>	<p style="text-align: center;"><b>Motor Drives</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>C2000 Plus</p>  </div> <div style="text-align: center;"> <p>MH300</p>  </div> <div style="text-align: center;"> <p>MS300</p>  </div> </div>


# DIASelector

## Quick, Easy, Smart Selection Tool



Easy product selection using specifications, patterns and key words regarding Delta's controllers, servo drives, motor drives, sensors, and HMIs for various automation projects

- Product specifications / patterns search and comparison
- Supports servo sizing tool with Mechanism Selection
- Product information (catalogs / brochures, manuals, technical documents) for download
- BOM list generation based on projects and sending to personnel by e-mails
- Windows-based interface and mobile application (Android compatible, iOS coming soon)

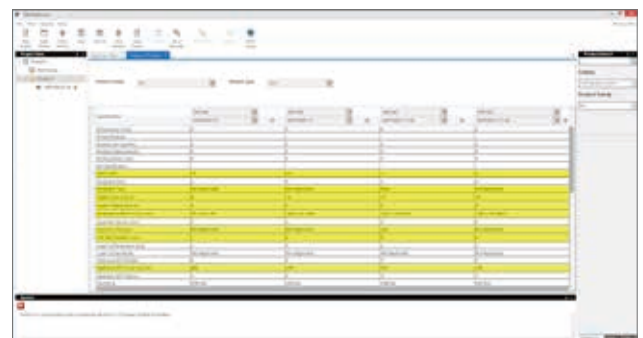


Android  
iOS (coming soon)

**Cross platform: Windows & Mobile App**



Product Selection



Product Comparison



Servo Sizing



Mechanism Parameters

# DIA Screen

## Intuitive Visualization Software



User-friendly HMI visualization software for DOP-100 and TP Series

### Abundant Graphics and Smooth Animation

- Built-in element graphics for interface display, suitable for a variety of industrial applications
- Smooth animation technology for realistic visual effects



### Advanced Alarm

- Advanced alarm functions for managing machine operations

Detail		Properties	
No.	Message Content		Categor
1*	Temp. too High · PV is %d1		1
2*	Temp. too Low · PV is %d1		1
3*	PV is %d1 · ALM Mail		2
4			0
5			0

Message
Temp. too Low · PV is 12
Temp. too High · PV is 91
Temp. too Low · PV is 15
Temp. too Low · PV is 23

### User Authority Management

- Account & authorization management; provides operation logs



# Auxiliary

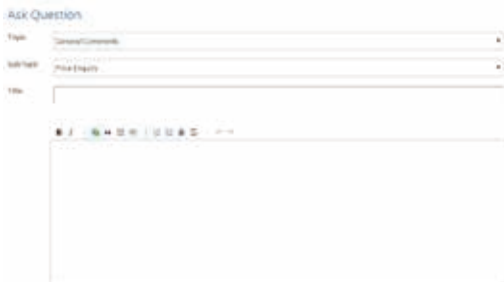
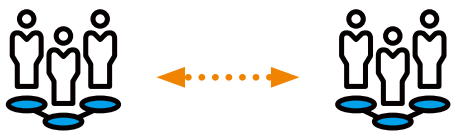
## DIAStudio Online Service

### Website – Access to Information and Service

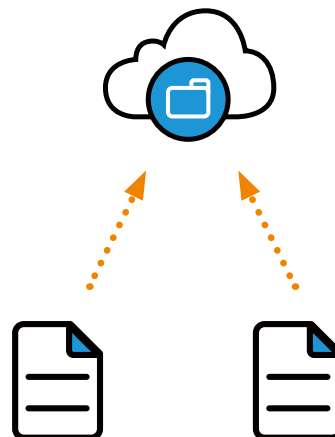
- Software introduction/download
- Register for software downloads and cloud service



- Online technical discussions to learn different kinds of know-how



- Cloud service: file storage



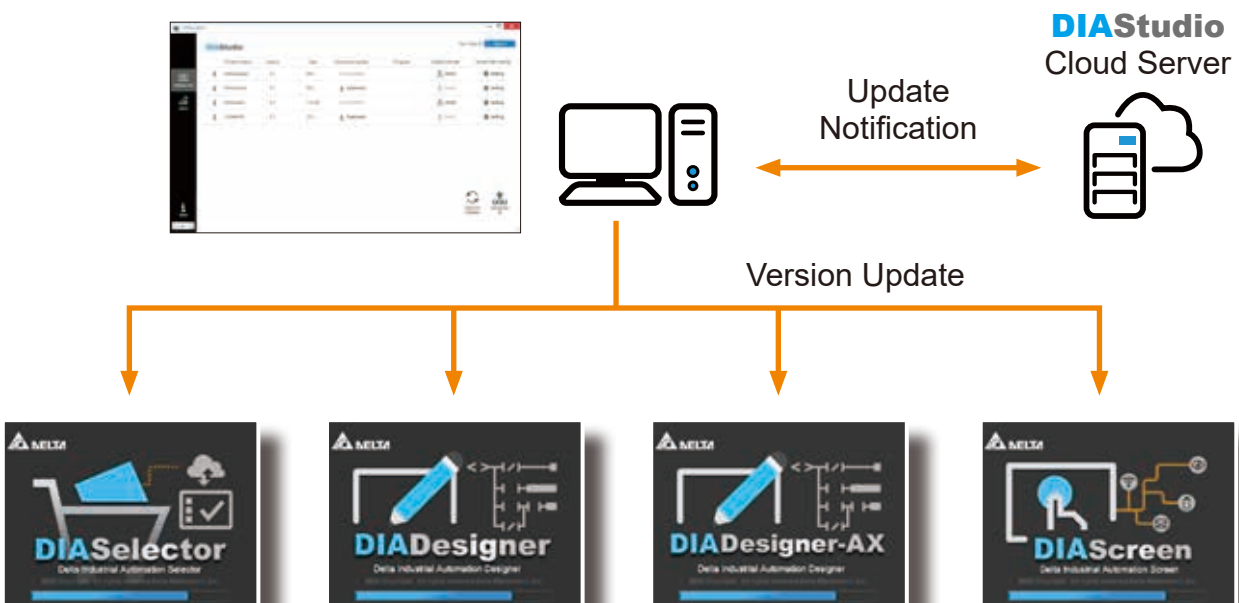
## DIAInstaller

### Software Download/Upgrade Management Tool

- Software download and installation: version selection/user authority management



- Version update notifications
- Supports manual and automatic version updates



\* Note: Please register to download the DIAInstaller.



Smarter. Greener. Together.

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