

WOP-2000 Series Selection Guide



Model Name	WOP-2035V		WOP-2057V		WOP-2070V	WOP-2080V	WOP-2104V	WOP-2121V
Ordering Information	WOP-2035V-S1AE	WOP-2035V-N1AE	WOP-2057V-S1AE	WOP-2057V-N1AE	WOP-2070V-N4AE	WOP-2080V-N4AE	WOP-2104V-N4AE	WOP-2121V-N4AE
CPU	RISC 32bits, 70MHz		RISC 32bits, 70MHz		RISC 32 bits, 200 MHz	RISC 32bits, 200MHz	RISC 32bits, 200MHz	RISC 32bits, 200MHz
Battery Backup Memory	128KB		128KB		128KB	128KB	128KB	128KB
Flash Memory	4MB	4MB	4MB	4MB	16MB	16MB	16MB	16MB
Operating System	HMI RTOS, PM Designer 2.0		HMI RTOS, PM Designer 2.0		HMI RTOS, PM Designer 2.0	HMI RTOS, PM Designer 2.0	HMI RTOS, PM Designer 2.0	HMI RTOS, PM Designer 2.0
Display	Type	QVGA TFT LCD		QVGA TFT LCD		WVGA TFT LCD	SVGA TFT LCD	SVGA TFT LCD
	Size	3.5"		5.7"		7"	10.4"	12.1"
	Max. Resolution	320 x 240		320 x 240		800 x 480	800 x 600	800 x 600
	Max. Colors	256 colors		256 colors		65,536 colors	65,536 colors	65,536 colors
	Luminance (cd/m2)	350		400		300	350	350
	Viewing Angle (H/V°)	120/120		100/95		140/130	140/120	130/110
Dimming	Backlight Life (hur)	LED, 20,000		LED, 20,000		LED, 20,000	LED, 30,000	CCFL, 30,000
	Dimming	Adjustable		Adjustable		Adjustable	Adjustable	Adjustable
Touchscreen	4 wires Analog resistive		4 wires Analog resistive		4 wires Analog resistive	4 wires Analog resistive	4 wires Analog resistive	8 wires Analog resistive
Power-On LED	Yes		Yes		Yes	Yes	Yes	Yes
Communication LED	No		COM1 and COM2		No	COM1, COM2 and COM3	COM1, COM2 and COM3	COM1, COM2 and COM3
Front USB Access	No		No		No	No	Yes	No
Communication Interface	COM1	RS-232/422/485 (DB9 Female)		RS-232/422/485 (DB9 Female)		RS-232/422/485 (DB9 Female)	RS-232/422/485 (DB9 Female)	RS-232/422/485 (DB9 Female)
	COM2	RS-422/485 (5-Pins Plug Connector)		RS-232/422/485 (DB9 Male & 5-Pins Plug Connector)		RS-232/422/485 (DB9 Male & 5-Pins Plug Connector)	RS-232/422/485 (DB9 Male & 5-Pins Plug Connector)	RS-232/422/485 (DB9 Male & 5-Pins Plug Connector)
	COM3	-	-	-	-	-	RS-232 (6-Pins Plug Connector)	RS-232 (6-Pins Plug Connector)
	Ethernet (RJ45)	-	10/100-BaseT	-	10/100-BaseT	10/100-BaseT	10/100-BaseT	10/100-BaseT
I/Os	USB Client	-		-		-	Yes	Yes
	USB Host	-		-		Yes	-	-
	Micro-SD Slot	-		-		-	-	-
Power Supply Voltage	24VDC ±10%		24VDC ±10%		24 VDC ±10%	24VDC ±10%	24VDC ±10%	24VDC ±10%
Power Consumption	10W		15W		25 W	25W	25W	25W
Dimension W x H x D (mm)	130 x 106.2 x 45mm (5.11" x 4.18" x 1.77")		187 x 145.7 x 45mm (7.36" x 5.73" x 1.77")		188 x 143.3 x 40 mm (7.4" x 5.64" x 1.57")	232.5 x 175.8 x 42.9mm (9.15" x 6.92" x 1.69")	297 x 224 x 52mm (11.6" x 8.8" x 2.04")	315 x 241 x 54.5mm (12.4" x 9.48" x 2.14")
Cut-out Dimensions W x H (mm)	118.5 x 92.5mm (4.66" x 3.64")		174.5 x 132.5mm (6.87" x 5.21")		174.5 x 132.5 mm (6.87" x 5.21")	221.5 x 164mm (8.72" x 6.45")	285.5 x 210.5mm (11.24" x 8.28")	301.5 x 228mm (11.87" x 8.97")
Front Panel Thickness	6 mm		6 mm		6 mm	6 mm	6 mm	6 mm
Net Weight	0.27 kg		0.65 kg		1.0 kg	1.0 kg	1.55 kg	1.55 kg
Operating Temperature	0 ~ 50°C (32 ~ 122° F)		0 ~ 50°C (32 ~ 122° F)		0 ~ 50° C (32 ~ 122° F)	0 ~ 50°C (32 ~ 122° F)	0 ~ 50°C (32 ~ 122° F)	0 ~ 50°C (32 ~ 122° F)
Storage Temperature	-20 ~ 60°C (-4 ~ 140° F)		-20 ~ 60°C (-4 ~ 140° F)		-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 60°C (-4 ~ 140° F)	-20 ~ 60°C (-4 ~ 140° F)	-20 ~ 60°C (-4 ~ 140° F)
Humidity	10 ~ 95% RH @ 40° C, non-condensing		10 ~ 95% RH @ 40° C, non-condensing		10 ~ 95% RH @ 40° C, noncondensing	10 ~ 95% RH @ 40° C, non-condensing	10 ~ 95% RH @ 40° C, non-condensing	10 ~ 95% RH @ 40° C, noncondensing
Ingress Protection	Front panel: NEMA4, IP65		Front panel: NEMA4, IP65		Front panel: NEMA4, IP65	Front panel: NEMA4, IP65	Front panel: NEMA4, IP65	Front panel: NEMA4, IP65
Certification Approval	CE / FCC / BSMI / CCC / UL		CE / FCC / BSMI / CCC / UL		CE / FCC / BSMI / CCC / UL	CE / FCC / BSMI / CCC / UL	CE / FCC / BSMI / CCC / UL	CE / FCC / BSMI / CCC / UL

Regional Service & Customization Centers

China Kunshan 86-512-5777-5666	Taiwan Taipei 886-2-2692-6076	Netherlands Eindhoven 31-40-267-7000	Poland Warsaw 48-22-33-23-730	USA/ Canada Milpitas, CA 1-408-519-3800
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Worldwide Office

Greater China

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Toll Free	800-810-0345
Beijing	86-10-6298-4346
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Shing-Tien	886-2-2218-4567
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Osaka	81-6-6267-1887

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Seoul	82-2-3663-9494

Singapore

Singapore	65-6442-1000
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Malaysia

Toll Free	1800-88-1809
Kuala Lumpur	60-3-7724-3555
Penang	60-4-397-3788

Thailand

Bangkok	66-2-248-3140
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Toll Free	1800-425-5070
Bangalore	91-80-2337-4567

Australia

Melbourne	1300-308-531
Sydney	1300-308-531

Europe

Toll Free

Germany	00800-2426-8080
Munich	49-89-12599-0
Düsseldorf	49-211-97477-0

France

Paris	33-1-4119-4666
Grenoble	33-4-7670-4700

Italy

Milano	39-02-9544-961
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Benelux & Nordics

Breda	31-76-5233-100
Roosendaal	31-165-550-505

UK

Berkshire	44-1344-381210
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Poland

Warsaw	48-22-33-23-740/41
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Russia

Toll Free	8-800-555-01-50
Moscow	7-495-232-1692

Industrial Operator Panels

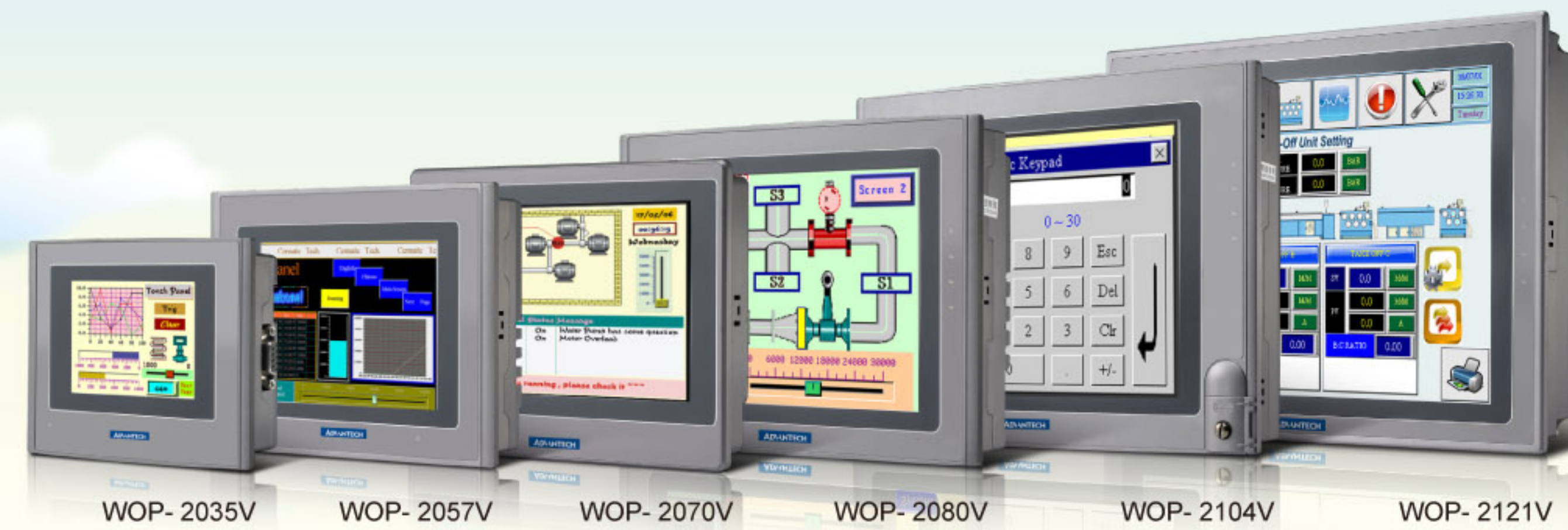
Enabling Flexible Connectivity Through
Powerful Solution-oriented Software

- WOP-2000 Introduction
- WOP-2000 Product Portfolio
- WOP-2000 Features
- PM Designer Features
- Successful Applications

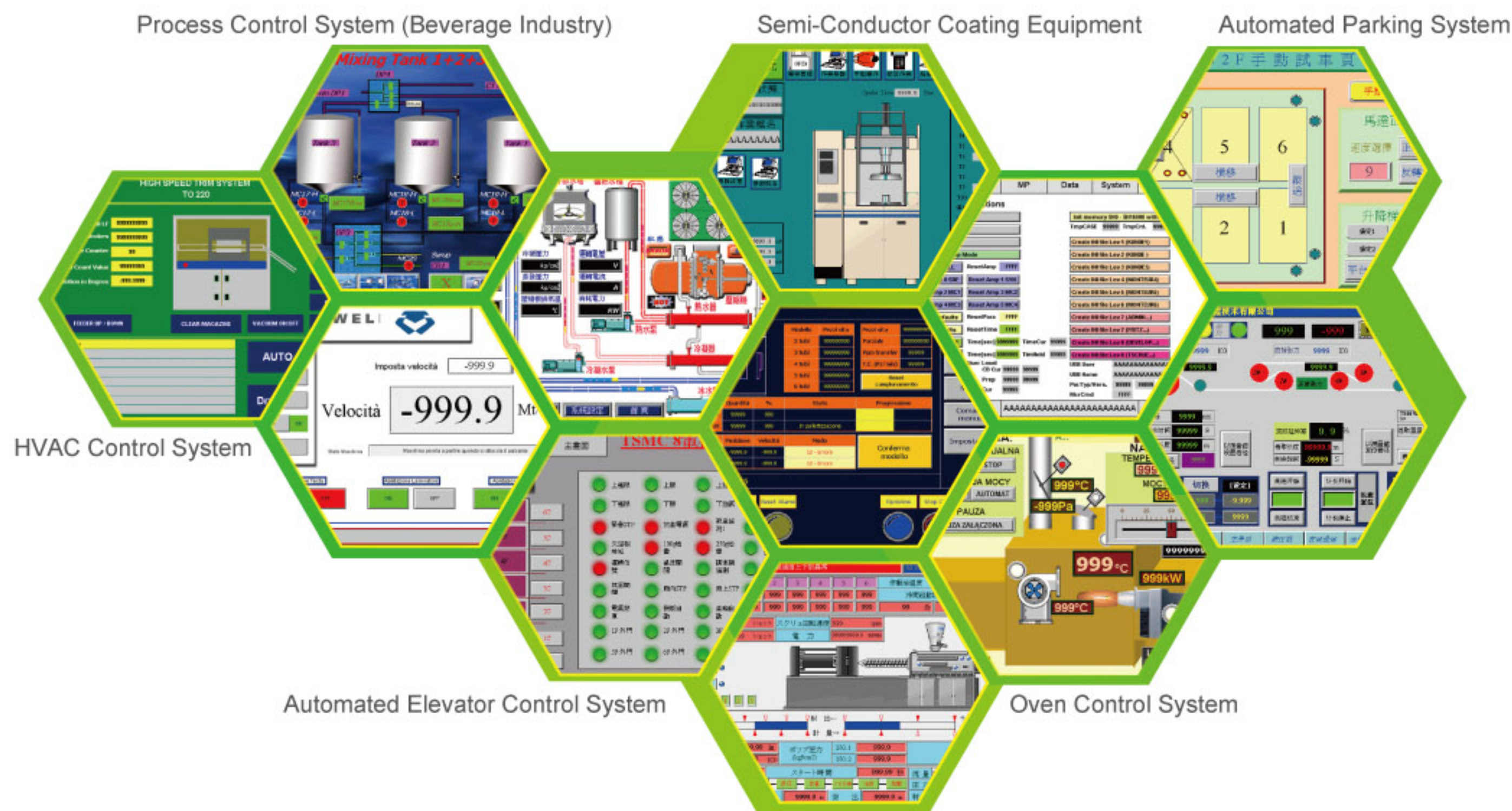


WOP 2000 Series

To satisfy the stringent standards required in the automation market, Advantech offers the WOP-2000 series for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. PM Designer 2.0 is a software development kit helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WOP-2000 series is bundled with PM Designer 2.0 offering an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.



Successful Application Screens



HMI Development Software - PM Designer

PM Designer is proven in many application fields and is an easy to use integrated development tool featuring solution-oriented screen objects, high-end vector graphics, Windows fonts for multi-language applications, recipes, alarms, data loggers and operation logging. PM Designer also includes online/offline simulation and other utility programs such as Data Transfer Helper (DTH); recipes editors and text editors. WOP runtime, a part of PM Designer, guarantees reliability and performance because of the minimum system overhead, high communication data rates, sub-second screen switching, and 24/7 operation.

Shortcut & Execution Toolbar

Icon Display Improves Work Efficiency

- Shortcut icons designed to show objects, figure type, and operations improving work efficiency.
- Frequently used objects and figures can be registered as Favorites.

Project Workspace

An Intuitive Tree Display Makes Runtime Development Easy

Easy to create, develop, and manage project property efficiency by project-based management worksheets.

Screen Design Worksheet

Smart Screen Design

Easy to view screens during runtime development, adjustable based on user-oriented application.

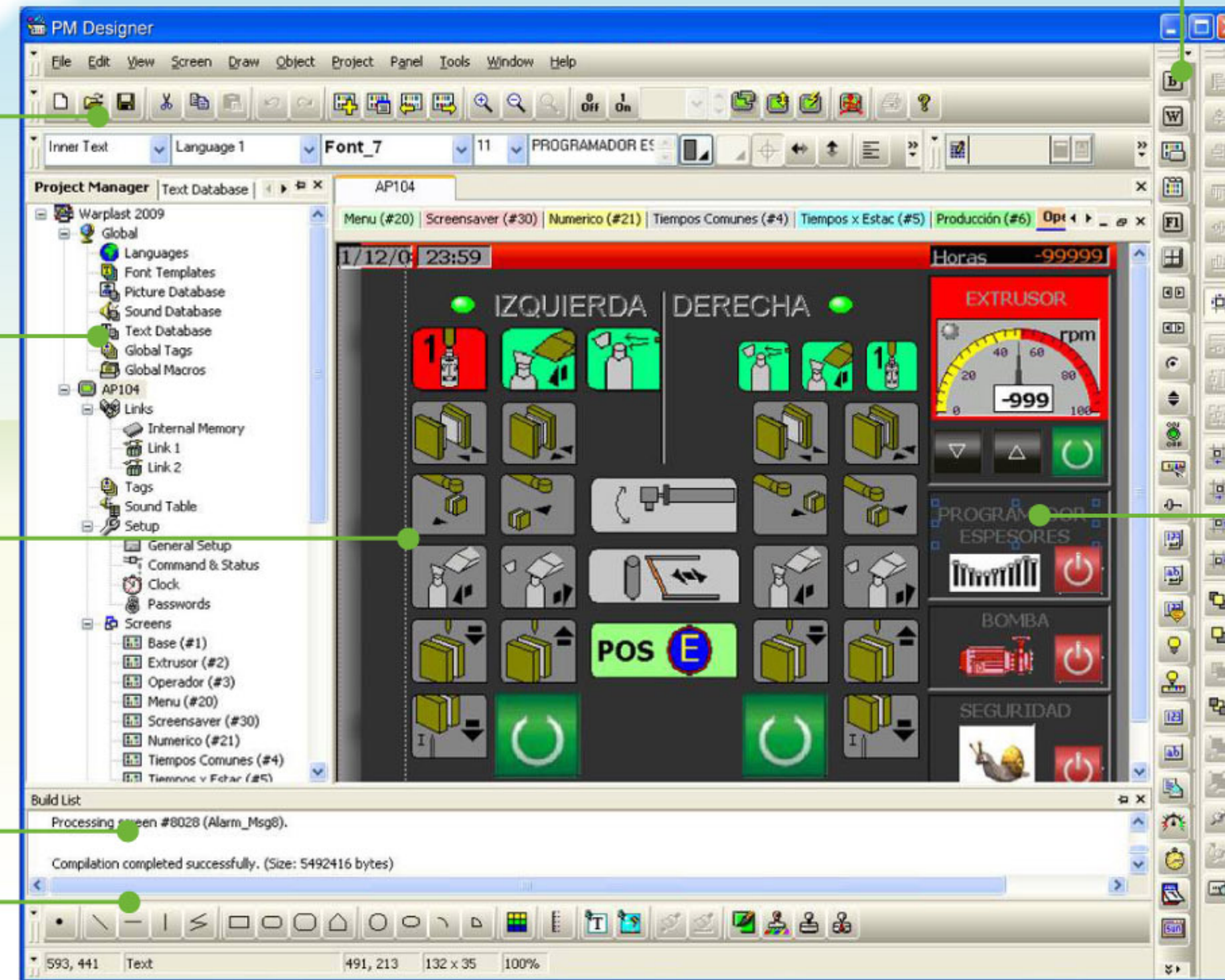
Message Build List

Compile & Simulate Results

By double clicking on the error message after compilation it will automatically jump to the place where the problem is.

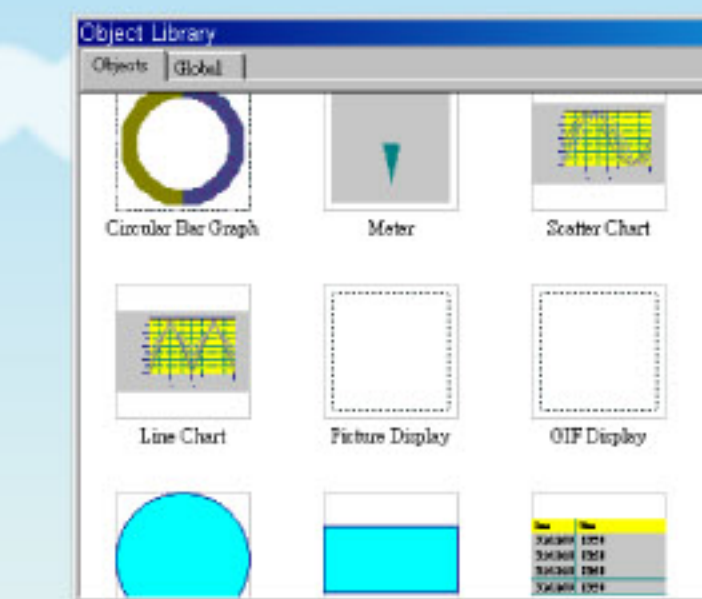
Draw Toolbar

A variety of drawing tools empower developers to create expansive applications.



Object Toolbar

Image Display of Registered Components



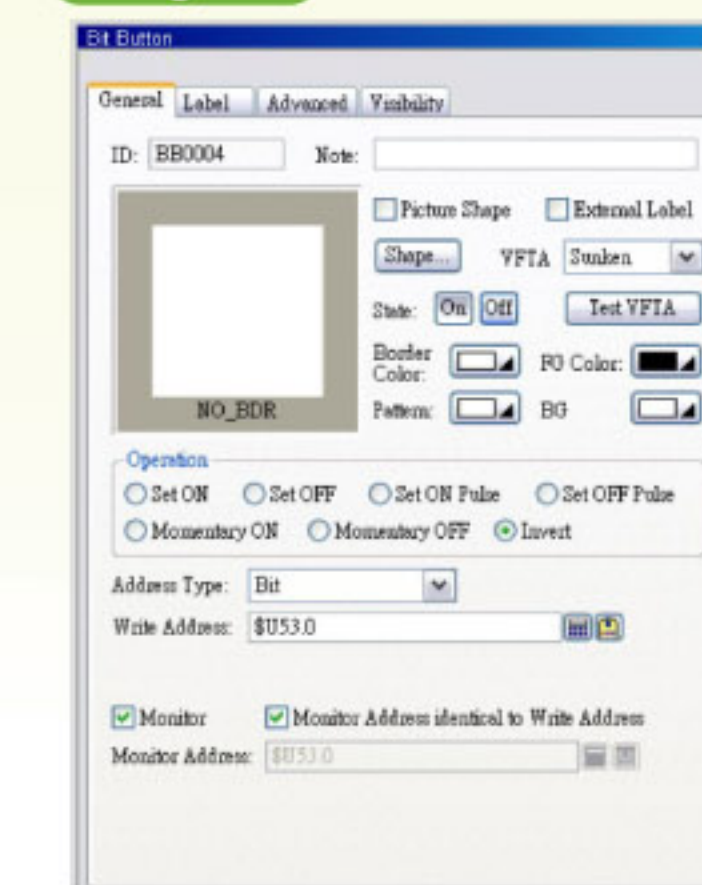
Designing screens is made easy by selecting components from the image list and putting them on the drawing screen.

Edit Toolbar

Dedicated Component Editing Screen

- A component editing screen appears by double-clicking a registered component within the library workspace.
- Editing registered components is quick and easy.

Dialog Box



- The attribute screen is displayed by double-clicking the object or figure.
- Figure changes are immediately reflected onscreen, thereby simplifying the process and reducing setting errors.
- Easy to set the properties thru pop-up dialog box.

Software Features

- Allows users to switch multi-language UI dynamically, with Unicode and multilingual screen text supported
- Provides password protection of designs, macros and upload/download operations
- Provides index registers for modifying device addresses at runtime
- Operation log helps the review and investigation of important events

- Allows downloads of runtime data using serial port, Ethernet port, USB client port at HMI and Micro-SD.
- Allows the use of USB memory sticks for trouble-free application updates

- Supports over 250 industrial communication protocols such as: SIMATIC S7-1200, BACnet MSTP/BACnet IP etc. and the driver list is growing

More Features



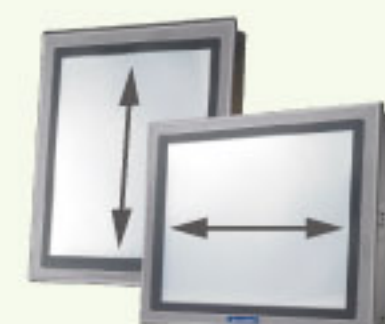
Complete Range of LCD Sizes From 3.5" to 12.1"

Supports a variety of LCD sizes from 3.5" to 12.1" and are highly suited for applications involving the use of PLCs



RTC Battery Backup

Backup sequence programs on WOP such as history, alarm, and receipt to keep systems safe in case PLC failure



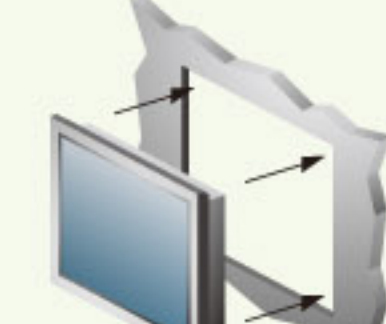
Horizontal & Vertical Screen Orientation

Portrait mode selection to allow a wide variety of display modes



Waterproof / IP65 Protection

All models support NEMA 4/ IP65 protection and 0 ~ 50°C operating temperatures



Panel Mounting

Easy to install into machines with special panel mounting design



PLC Connectivity

Compatible with over 250 of the most popular PLCs on the market for a variety of factory automation needs