


Industrial Operator Panels

Enabling Flexible Connectivity through
Powerful Solution-oriented Software

- ／ Introduction
- ／ Product Portfolio
- ／ Features & Functions
- ／ 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.



Industrial Applications

- Focused on textile, packaging and pharmaceutical applications
- Wide market coverage in Building Automation, with BACNet MSTP/TP support

Hardware & Communication

- Compact, flat-sealed with NEMA4/IP65
- Supports Ethernet-based operator data acquisition and bi-directional control
- Data acquisition and bi-directional control through real time communication
- Supports various communication links



WOP-2080V

WOP-2104V

WOP-2121V

HMI Development Software

- Free software development kit
- Supports Windows XP/Vista/7
- Communicate with SCADA software to create a complete automation solution

Technical Support

- Supports PLC driver programming
- Online Web-based technical document sharing
- FAQ, Forum, Mini-site
- Web-based online training

WOP-2000 Series Selection Guide



Model Name		WOP-2035V		WOP-2057V		WOP-2070V
Ordering Information		WOP-2035V-S1AE	WOP-2035V-N1AE	WOP-2057V-S1AE	WOP-2057V-N1AE	WOP-2070V-N4AE
CPU		RISC 32bits, 70MHz		RISC 32bits, 70MHz		RISC 32 bits, 200 MHz
Battery Backup Memory		128KB		128KB		128KB
Flash Memory		4MB	4MB	4MB	4MB	16MB
Operating System		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
	Size	3.5"		5.7"		7"
	Max. Resolution	320 x 240		320 x 240		800 x 480
	Max. Colors	256 colors		256 colors		65,536 colors
	Luminance (cd/m2)	350		400		300
	Viewing Angle (H/V°)	120/120		100/95		140/130
	Backlight Life (hur)	LED, 20,000		LED, 20,000		LED, 20,000
	Dimming	Adjustable		Adjustable		Adjustable
Touchscreen		4 wires Analog resistive		4 wires Analog resistive		4 wires Analog resistive
Power-On LED		Yes		Yes		Yes
Communication LED		No		COM1 and COM2		No
Front USB Access		No		No		No
Communication Interface	COM1	RS-232/422/485 (DB9 Female)		RS-232/422/485 (DB9 Female)		RS-232/422/485 (DB9 Female)
	COM2	RS-422/485 (5-Pin Plug Connector)		RS-232/422/485 (DB9 Male & 5-Pin Plug Connector)		RS-232/422/485 (DB9 Male & 5-Pin Plug Connector)
	COM3	-	-	-	-	-
	Ethernet (RJ45)	-	10/100-BaseT	-	10/100-BaseT	10/100-BaseT
	USB Client	-		-		-
I/Os	USB Host	-		-		Yes
	Micro-SD Slot	-		-		-
Power Supply Voltage		24VDC ±10%		24VDC ±10%		24 VDC ±10%
Power Consumption		10W		15W		25 W
Cut-out Dimensions (W x H)		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")
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")
Front Panel Thickness		6 mm		6 mm		6 mm
Net Weight		0.27 kg		0.65 kg		1.0 kg
Operating Temperature		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)
Humidity		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
Certification Approval		CE / FCC / BSMI / CCC / UL		CE / FCC / BSMI / CCC / UL		CE / FCC / BSMI / CCC / UL



WOP-2080V	WOP-2104V	WOP-2121V
WOP-2080V-N4AE	WOP-2104V-N4AE	WOP-2121V-N4AE
RISC 32bits, 200MHz	RISC 32bits, 200MHz	RISC 32bits, 200MHz
128KB	128KB	128KB
16MB	16MB	16MB
HMI RTOS, PM Designer 2.0	HMI RTOS, PM Designer 2.0	HMI RTOS, PM Designer 2.0
SVGA TFT LCD	SVGA TFT LCD	SVGA TFT LCD
8"	10.4"	12.1"
800 x 600	800 x 600	800 x 600
65,536 colors	65,536 colors	65,536 colors
350	300	350
140/130	140/120	130/110
LED, 50,000	LED, 30,000	CCFL, 30,000
Adjustable	Adjustable	Adjustable
4 wires Analog resistive	4 wires Analog resistive	8 wires Analog resistive
Yes	Yes	Yes
COM1, COM2 and COM3	COM1, COM2 and COM3	COM1, COM2 and COM3
No	Yes	No
RS-232/422/485 (DB9 Female)	RS-232/422/485 (DB9 Female)	RS-232/422/485 (DB9 Female)
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 (6-Pins Plug Connector)	RS-232 (6-Pins Plug Connector)	RS-232 (6-Pins Plug Connector)
10/100-BaseT	10/100-BaseT	10/100-BaseT
-	-	-
Yes	Yes	Yes
-	-	-
24VDC ±10%	24VDC ±10%	24VDC ±10%
25W	25W	25W
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")
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")
6 mm	6 mm	6 mm
1.0 kg	1.55 kg	1.55 kg
0 ~ 50°C (32 ~ 122° F)	0 ~ 50°C (32 ~ 122° F)	0 ~ 50°C (32 ~ 122° F)
-20 ~ 60°C (-4 ~ 140° F)	-20 ~ 60°C (-4 ~ 140° F)	-20 ~ 60°C (-4 ~ 140° F)
10 ~ 95% RH @ 40° C, non-condensing	10 ~ 95% RH @ 40° C, non-condensing	10 ~ 95% RH @ 40° C, noncondensing
Front panel: NEMA4, IP65	Front panel: NEMA4, IP65	Front panel: NEMA4, IP65
CE / FCC / BSMI / CCC / UL	CE / FCC / BSMI / CCC / UL	CE / FCC / BSMI / CCC / UL

WOP-2000 Series Features

With ARM9-based RISC processors up to 200MHz and 16MB flash memory, the WOP-2000 series supports a variety of LCD sizes from 3.5" to 12.1" and are highly suited for applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. With various communication interfaces, including RS-232/422/485, Ethernet and USB ports, the WOP-2000 series can easily connect to a variety of equipment. The monitors boast SVGA TFT LCDs with 64K colors and 800 x 600 resolution for clear displays in any factory setting. Furthermore, these products include NEMA 4/IP65 protection and 0 ~ 50° C operating temperatures to ensure reliable performance in the most demanding environments. Compatible with over 250 of the most popular PLCs on the market, including; Allen Bradley Micrologix, Modicon, Quantum, GE 90, Siemens AG Simatic S7, Mitsubishi. FX/Q, Omron Sysmac C/CV/CS/CJ, and Yaskawa MP, the WOP-2000 series and PM Designer 2.0 provide an outstanding price/performance ratio for a variety of factory automation needs.



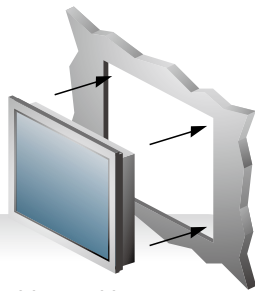
Complete Range of LCD Sizes From 3.5" to 12.1"

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



Front USB Access

Front USB port accessible in 10.4" HMI which provides excellent convenience for operators and technicians



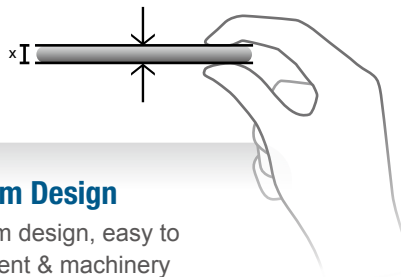
Panel Mounting

Easy to install into machines with special panel mounting design



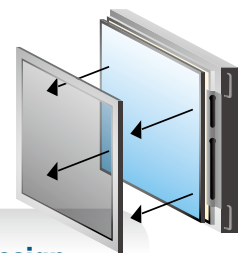
RTC Battery Backup

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



Compact & Slim Design

Compact and slim design, easy to mount in equipment & machinery



Customized Front Panel Design

Advantech can provide customized front panels with optional labels to service any customer's request



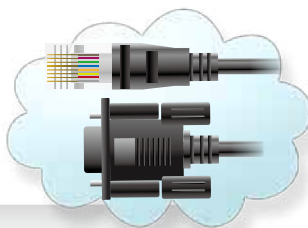
Horizontal & Vertical Screen Orientation

Portrait mode selection to allow two different display modes



Waterproof / IP65 Protection

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



Rich Communication Ports

With various communication interfaces, including RS-232/422/485, Ethernet and USB Host/Client ports



PLC Connectivity

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

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.



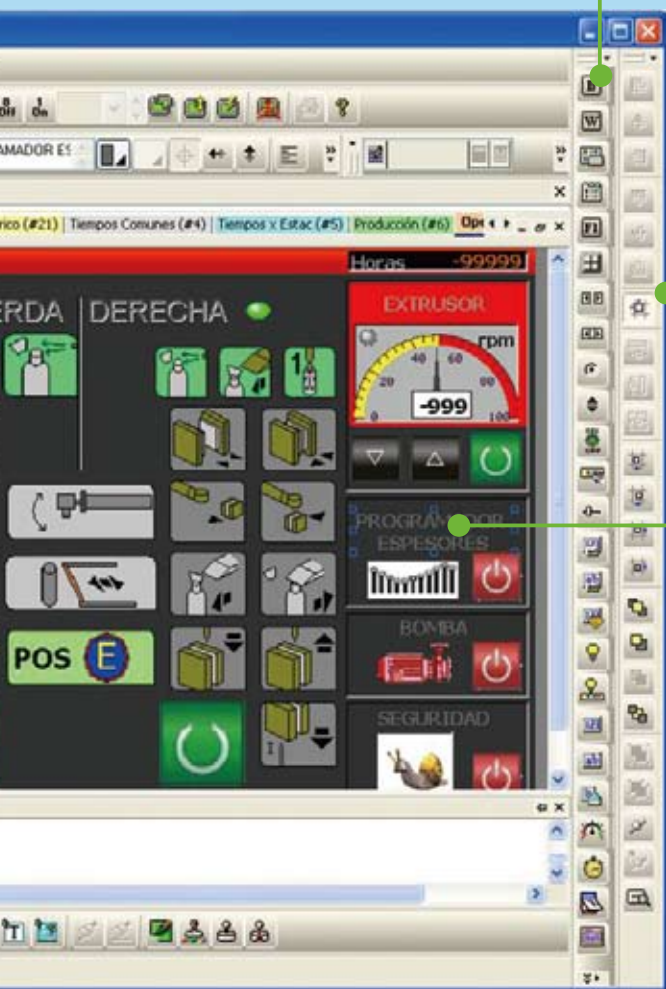
■ Software Features

- 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.

Simple

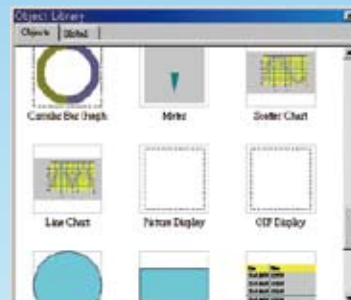
Easy

Innovative



Object Toolbar

Registered Components Display



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 through pop-up dialog box.

- Allows downloads of runtime data using serial port, Ethernet, USB 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, and more.

PM Designer Software

Efficient Project-based Structure to Manage Multiple Applications

Project manager

- One project can have many applications.
- The project tree provides all you need to manage a project.
- Global settings and resources sharable to all applications in a project.
- You can make the most out of existing projects by import/export functions for all kinds of settings.
- Containing entire project in one file makes the maintenance job easy.



Software Functionalities to Meet Various Machine Automation Needs

Possible to achieve a mini-SCADA system

- You can have the followings for an application:
- 10 sets of text to support multiple languages.
- 4 communication links with the option to add more RS-485 and TCP/IP sub-links.
- 7999 screens.
- 1 startup macro; 1 main macro; 4 event macros, 4 time macros, no limitation on other kinds of macros
- 16 discrete alarm, analog alarm, recipe block and data loggers. data logger
- 1 operation logger.



User Friendly Tools to Make Customized Designs Easier and More Efficient

Screen editor and toolbars

- Real-time WYSIWYG allows you to see the change of object appearance at any time.
- Property dialogs with semi-transparent features will not block your view to screen objects anymore.
- Automatic size adjustment of characters and pictures according to the object size is supported.
- Groups a number of objects to move, resize, and modify the common attributes.
- Rotates a picture or change its tone to fit the need of an object.

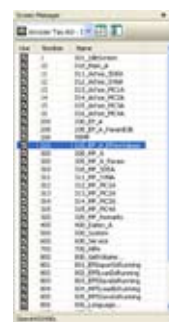


Smart Screen Management

Screen manager

- Shows the screen numbers and their names of an application in a traditional text list or a thumbnail list.
- Selects screens from the list to edit, cut, copy, delete, or export them.
- Creating new screens and importing screens can be done through a pop-up menu.
- Clicks on a screen thumbnail to highlight the connections of that screen with others.
- Double-clicks on a screen thumbnail to open that screen's editing window or property dialog.

List View



Thumbnail View



Screen Overview



A Graphical Tool for Defining Communication Configuration

Link overview

- Depicts the communication links of all the panel applications in a project. You can easily know the panel-device connections and the panel-panel connections.
- Edits the content of the link overview to make it more readable and meaningful.
- Creates panel applications and communication links. This is a way of doing top-down design on communication level.

Moving the starting terminal of a link line to a different port position changes the link port setting accordingly.

Double-click on a highlighted link line to bring up the property dialog of that link.

Display All Objects With Associated I/O Points in a List

Object list

- Shows all the objects of a screen with their types, IDs, and associated I/O addresses. You can edit the I/O addresses in the list directly.

Number	Object	ID	Value	Position	Read
000	Rectangle	000001	0000	1000,1000	0000
001	88 Button	000002	0000	1000,1000	0000
002	Rectangle	000003	0000	1000,1000	0000
003	88 Button	000004	0000	1000,1000	0000
004	Text	000005	0000	1000,1000	0000
005	Message Display	000006	0000	1000,1000	0000
006	88 Button	000007	0000	1000,1000	0000
007	Text	000008	0000	1000,1000	0000
008	88 Button	000009	0000	1000,1000	0000
009	Text	000010	0000	1000,1000	0000
010	88 Button	000011	0000	1000,1000	0000
011	Text	000012	0000	1000,1000	0000
012	88 Button	000013	0000	1000,1000	0000
013	Text	000014	0000	1000,1000	0000
014	88 Button	000015	0000	1000,1000	0000
015	Text	000016	0000	1000,1000	0000
016	88 Button	000017	0000	1000,1000	0000
017	Text	000018	0000	1000,1000	0000
018	88 Button	000019	0000	1000,1000	0000
019	Text	000020	0000	1000,1000	0000
020	Text	000021	0000	1000,1000	0000
021	Text	000022	0000	1000,1000	0000
022	Message Entry	000023	0000	1000,1000	0000
023	Message Entry	000024	0000	1000,1000	0000
024	Text	000025	0000	1000,1000	0000
025	Text	000026	0000	1000,1000	0000
026	Text	000027	0000	1000,1000	0000
027	Text	000028	0000	1000,1000	0000
028	Text	000029	0000	1000,1000	0000
029	Text	000030	0000	1000,1000	0000
030	Message Display	000031	0000	1000,1000	0000
031	Message Display	000032	0000	1000,1000	0000
032	Text	000033	0000	1000,1000	0000
033	Text	000034	0000	1000,1000	0000
034	Text	000035	0000	1000,1000	0000
035	Text	000036	0000	1000,1000	0000
036	Message Entry	000037	0000	1000,1000	0000
037	Text	000038	0000	1000,1000	0000

Shows All I/O Points With Their Purpose in A Table

Screen editor and toolbars

- Double-clicks on an I/O point to bring up the property dialog of that I/O point's user. It is convenient to view or modify the configuration of an entity associated with a certain I/O point through this way.

Address	Name	Purpose
000001	000001	0000
000002	000002	0000
000003	000003	0000
000004	000004	0000
000005	000005	0000
000006	000006	0000
000007	000007	0000
000008	000008	0000
000009	000009	0000
000010	000010	0000
000011	000011	0000
000012	000012	0000
000013	000013	0000
000014	000014	0000
000015	000015	0000
000016	000016	0000
000017	000017	0000
000018	000018	0000
000019	000019	0000
000020	000020	0000
000021	000021	0000
000022	000022	0000
000023	000023	0000
000024	000024	0000
000025	000025	0000
000026	000026	0000
000027	000027	0000
000028	000028	0000
000029	000029	0000
000030	000030	0000
000031	000031	0000
000032	000032	0000
000033	000033	0000
000034	000034	0000
000035	000035	0000
000036	000036	0000
000037	000037	0000
000038	000038	0000
000039	000039	0000
000040	000040	0000

Thousands of Professional Pictures to Make Screen Designs Easy and Outstanding

Picture libraries and picture database

- Famous industrial pictures from Symbol Factory are ready for use, so that making your own picture libraries is easy.



WOP symbols (.BMP)

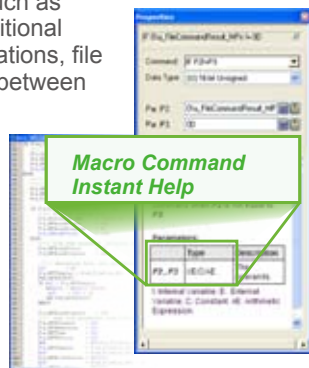
Easy-to-use Macro Editor and Commands

Macro editor and macro commands

- Macro editor and macro commands are useful for operations, such as sequential operations, conditional operations, interactive operations, file operations, data exchange between two connected devices, etc.

Type	CMD	Name
000001	000001	0000
000002	000002	0000
000003	000003	0000
000004	000004	0000
000005	000005	0000
000006	000006	0000
000007	000007	0000
000008	000008	0000
000009	000009	0000
000010	000010	0000
000011	000011	0000
000012	000012	0000
000013	000013	0000
000014	000014	0000
000015	000015	0000
000016	000016	0000
000017	000017	0000
000018	000018	0000
000019	000019	0000
000020	000020	0000
000021	000021	0000
000022	000022	0000
000023	000023	0000
000024	000024	0000
000025	000025	0000
000026	000026	0000
000027	000027	0000
000028	000028	0000
000029	000029	0000
000030	000030	0000
000031	000031	0000
000032	000032	0000
000033	000033	0000
000034	000034	0000
000035	000035	0000
000036	000036	0000
000037	000037	0000
000038	000038	0000
000039	000039	0000
000040	000040	0000

Macro Commands

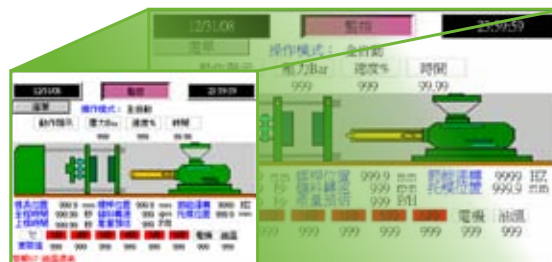


Macro Editor

Changing HMI Model Can Be Done in Seconds

Automatic size adjustment

- When changing the screen resolution, all the screen objects are automatically resized to maintain the relative positions and size ratios to the original screens.



5.7" 640x480

7" 800x480

PM Designer Software

Simple Text Mapping Table Fulfills The Needs for Multiple Languages

Text database and text editor

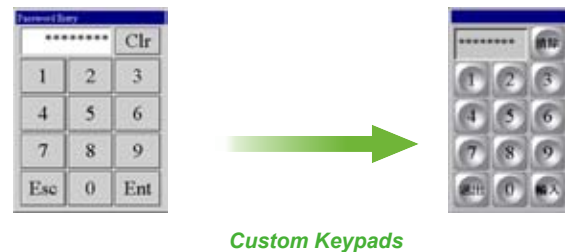
- Text database tables have multiple columns to contain strings for all supported languages with import/export functions, you can use Microsoft Excel to edit strings and import them for an application.



Customized Keypad Layouts and Designs

Custom keypads and on-screen keypads

- You can design your own keypad to make it more appealing or suitable for a special requirement.
- Using on-screen keypads instead of pop-up keypads is possible.



Secure Intellectual Properties

Design protection

- Project files, global macros, and password tables can be protected by different passwords.
- Copying and uploading of an application can be prohibited in advance.



Anti-Piracy Functions

Advanced object settings

- An allowable input range can be set for a numeric data entry object.
- Buttons, switches, and data entry objects can be disabled or hidden dynamically by the current user level or the specified bits.
- Operator confirmation can be asked for a data entry.
- Minimum holding time can be required for a button/switch.
- Advanced Numeric Display can use a macro to check the user input.



Supports Dynamic Data, Scale and Time Ranges for Complicated Applications

Dynamic range

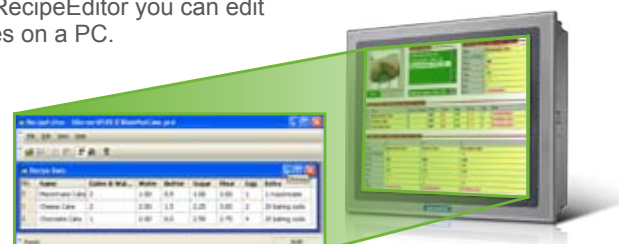
- With the support of dynamic range, a screen object can adapt its display to the current range settings to show information more readable and precise.



Provides Complete Recipe Handling Functions

Recipe blocks

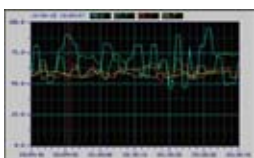
- Supports up to 16 different groups of recipes.
- Transfer of recipes between WOP and PLCs/files is supported.
- With RecipeEditor you can edit recipes on a PC.



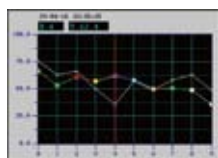
Easy to Configure Data Collections and Historic Data Displays

Data loggers

- You can save/load collected data (up to 16 different data sources) to/from a file by a function button or macro program.
- Historic Event Table displays collected data and history of predefined events in tabular form.



- Historic Trend Graph displays collected data in trend lines



- Single Record Line Chart displays the profile of one sample from a set of collected data.

Operations Can Be Recorded for Improving Quality and Efficiency

Operation logging

- The starting time and the stopping time of an application can be recorded.
- The failure of a communication link can be recorded.
- Operation Log Display lists the logged operations process for the operator to review.

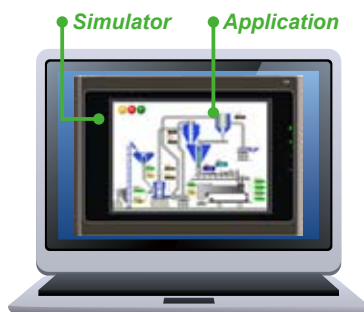
Date	Time	Message
21/08/09	16:56:53	Scrolled the slide switch. (637)
31/08/09	16:56:49	Inputted a new value (896.7)
31/08/09	16:56:33	Button is clicked. (OFF)
31/08/09	16:56:32	Scrolled the slide switch. (318)
21/08/09	16:56:29	Inputted a new value (9.0)
31/08/09	16:56:25	Button is clicked. (ON)
21/08/09	16:56:19	Cleared the operation history

Operation Log Display

Reduce Time and Effort to Boost Performance through Advanced Simulations

Offline simulation and online simulation

- Offline simulation function can help to experience your design result even before decide to purchase this model.
- Evaluates the communication performance using online simulation before installation.



Offline Simulation

Versatile Alarm Monitoring and Display Capabilities

Alarm processing

- Up to 16 discrete alarm blocks and 16 analog alarm blocks can be monitored and recorded.
- Up to 8 data values can be read and recorded along with an alarm event.
- A global alarm marquee is supported.



Easy-to-Use Error Messages

Compiler

- Checks the correctness and consistency of all settings and designs to optimize the communications with connected devices.
- Translates macros into compact and ready-to-execute codes.
- Builds runtime data to be executed by the WOP.



Provides Various Choices for Application Runtime Data Transfers

Data Transfer Tool & Data Transfer Helper (DTH)

- Uses PM Designer or DTH to transfer an application's runtime data to a WOP through a serial port, an Ethernet port, or a USB port anytime when that WOP is running. (Some WOP models may not have a client USB port to support the data transfer.)
- Without a PC, transfers an application's runtime data to a WOP by using a USB memory stick.



Successful Applications



Batch Operation Control in Food and Beverage Market

APAX-5570 : PC-based Controller with Celeron M CPU

WOP-2070V : 7" WVGA Operator Panel with PM Designer 2.0 Software

Automated mixing and blending systems are designed to provide accurate proportions of ingredients with quick recipe changes when necessary. The WOP-2070V and Advantech's APAX Controllers can operate as batch controllers, providing strong computational power for temperature, pressure and sequential functions in the field. Not only can APAX-5570 easily link with different devices, its wide operating temperature and robust design allow it to control all day long while maintaining system stability. The WOP-2070V supports flexible connectivity controls through powerful solution-oriented software which can easily execute functions such as recipe selection and storage.



Packaging & Label Slitting Machinery Process Control

WOP-2057V : 5.7" QVGA Operator Panel with PM Designer 2.0 Software

Delivering a high degree of durability with a low total cost of ownership is a key factor for efficient packaging. Therefore, to provide accurate and on-time information, food and beverage targeted controllers need to be able to connect to standard Ethernet networks with high reliability to provide continuous transmissions. For the data transmission, we need an interface which can connect different devices to make the entire process easier for the end user. WOP-2057V was highly recommended for this application bundled with PM Designer HMI Development software, to create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory.



Car Wash Control System

WOP-2080V : 8" SVGA Operator Panel with PM Designer 2.0 Software

ADAM-5550 : 8-slot Programmable Automation Controller

There are a few different steps in a car washing sequence, first is the pre-wash, second is a soap process, and finally the brushing to remove all the dirt off the vehicle. The horizontal brush needs to follow the contour of the vehicle. To control these steps and functions, we need a touch operator panel and controller. For this requirement, WOP-2080V attached to an ADAM-5550 controller provides the perfect combination to optimize systems for long-term use. This architecture ensures high reliability for critical control tasks and satisfies users in need of high performance solutions for complex control applications.



Automatic Quality Inspection in Electronic Manufacturing

WOP-2104V : 10.4" SVGA Operator Panel with PM Designer 2.0 Software

AMAX-2050KW: GX2-400 Machine Control Box with AMONet and CAN Interface

ADAM-5550KW: 8-slot Programmable Automation Controller

Inspection is a must in quality control to ensure the safety or reliability of structures or machinery. Also, quality inspection can be used by the customer with the objective of reducing risk and total cost of ownership. Inspection of raw material and components can assure and monitor the quantity being produced. The integrated solution consists of an operator panel attached to an ADAM-5550KW and AMAX-2050KW, to provide the data acquisition and analysis, and direct orders to devices. As the main interface for this solution, the WOP-2104V with flat-panel display was installed near the inspection station and the results can be viewed on the touchscreen monitor.



Temperature Control Test Chamber

WOP-2121V : 12.1" SVGA Operator Panel with PM Designer 2.0 Software

During the process of quality control, temperature and humidity are the necessary tests. Therefore the required chambers need to ensure precise, reliable service in an array of various applications. To meet the requirements, WOP-2121V is the perfect choice for operating and checking data through graphic expression, all settings can be done in WOP-2121V with flow and pressure settings.



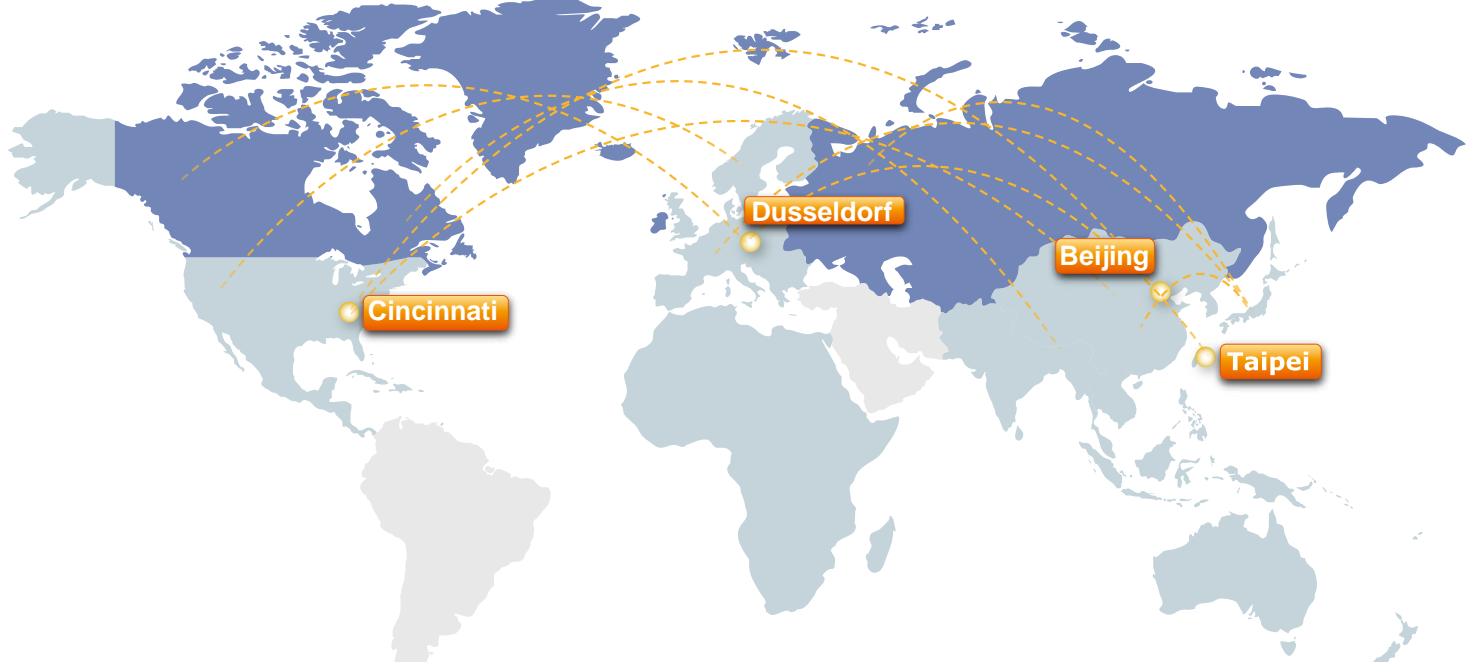
HVAC Control System in Building Automation

WOP-2035V : 3.5" QVGA Operator Panel with PM Designer 2.0 Software

More and more HVAC systems can interface to building automation systems which makes the building owners have more control over the heating or cooling units. The building owner can monitor the system and respond to alarms generated by the system from local or remote locations. The system can be scheduled for occupancy or the configuration can be changed from the Building Automation Solution, depending on the different interfaces can be used. As the main interface of this solution, WOP-2035V is highly recommended. Not only can it easily link with the control system server, its PM Designer software supports data from many devices with various methods.

Global Technical Support Network

Providing superior self-support mechanisms is one of the most essential parts of being a top-tier automation company, and we take pride in the outstanding level of service that we offer. To best support our customers, we've created a suite of useful interactive online tools.



Integration Services

Flexible & Cost-Effective

Global, High Quality Support

Dedicated Professionals

Timely Service

Advantech's well-established technical support systems transform your ideas into reality and achieve highly adaptable, just-in-time response.

Local Support

With service teams in each major operating region, we support service through an extensive global network of offices and an industry-leading eBusiness infrastructure designed to provide responsive service that benefits customers anytime, anywhere.

Online Video Tutorials

This tutorial will take you step-by-step through the process and these video tutorials have been developed to help you to understand and make the best use of operator panels. Trainees get real-time integrated information.

Customized Driver Support

Even though PM Designer supports over 250 PLC controller drivers, some products may not be supported, but the driver list is growing everyday. Contact us for details on the driver you need.

Online Technical Support Services

PM Designer makes it easy to create applications with an intuitive and user-friendly interface, that is flexible and efficient between systems, machines and operators. Therefore, Advantech provides online technical support services for customers to reduce the total cost of ownership during the development and operation. Downloadable software tools and documentation makes it easy to get started. A wide selection of ready-made objects and functions make it easy to create applications through online function block example sharing. You can easily download from our web-site to shorten development time. Also, the forum community is established to encourage discussions which provides valuable information exchange.



Supported PLC Controllers

Communication Port (COM)

Brand	Model	Driver
A&D Company Ltd.	AD-4401 Weighing Indicator	CAD401
ABIDO Automation Co., Ltd.	ACR420 984 Device/Slave (RTU)	C2C032
ADLEE POWERTRONIC CO., LTD.	MS/AP/AS Series Inverter (RTU)	CAPINV
	BL/D305 Series (RTU)	CAPIPM
Advantech Corp. Ltd	ADAM-5000 series	-
	APAX-5000 series	-
AIGO Technologies Corporation	SE500 Series (Modbus RTU)	C87001
	Micrologix 1000/1500	C10001
Allen Bradley	SLC 5/03, 5/04	C10002
	DH-485 (COM)	C10003
ARICO Technology	FC Type(Modbus)	Carfc01
Automation Technology Co., Ltd.	BLDC NLV/KLV Series	CAK200
Bosch Rexroth Group	Convo CVF-MN3 (RS485 Model)	C49001
CAPAC	TC	CCAP01
CHINO Corporation	DB1000 Digital Indicating Controller (ASCII)	CCDB1k
	NFO Controllers	CCMZ051
	FCT Controllers	CCMZ151
	SD Drivers	CCMZ251
	SDS Drivers	CCMZ351
	MDM Drivers	CCMZ451
CTB Technologies Corporation	IMS Servo Controller	CAA001
Danfoss Group	VLT 2800 Series (FC Protocol)	CDAVLT
	DVP-ES/SS/EP/EH	C16001
	DVP-ES/SS/EP/EH (No block read)	C16001
	VFD-M Inverter (ASCII)	C16011
	VFD-B Inverter (ASCII)	C16021
	DTC1000/2000 Temperature (ASCII)	C16031
	ASDA-A Servo Controller (ASCII)	C16041
	ASDA-B Servo Controller (ASCII)	C16051
Dirise Electric Technology Co.,Ltd.	DRS2000 Series Inverter	C15101
	DRS2800 M Series Inverter	CFDSR01
Emerson Network Power	EC Series (RTU)	C81001
	EV1000 Series Variable Speed Driver	C81011
Epson Corporate	Epson LQ Matrix Printer	CEPSO00
	Eura EF1S/1N	C2B001
	Eura EF2N	C2B041
Eura Drives Electric Corp.	Eura Inverter (Modbus RTU)	C2C051
	Eura Inverter (Modbus ASCII)	C2C093
Fatek Automation Corp.	FATEK FBs/FBe	C1A001
Festo Corporation	FPC/FEC Series	C1C001
	NB Series	C1D001
Fuji Electric Corporation	PXR Series Temperature (RTU)	C1D011
	FRENIC-VP (RTU)	C1D021
	FRENIC5000G11/P11 (Fuji)	C1D031
FKV Automation Co., Ltd.	F Series Inverter	CFDSR01
	90 Series SNP	C1E001
GE Corporation	90 Series CCM	C1E011
Gigarise Technology Co., Ltd.	SE5000	C87002
	GA400 Temperature (RTU)	C90012
GOFAST Corporation	NC Series	C42001
Hanbell Precise Machinery Co., Ltd.	Air Screw Compressor	CHANASC
	SJ200 Inverter	C1F001
	H/EH Series	C1F020
	EHV Series (Procedure 1)	C1F021
	H-252C	C1F022
	AD Series Servo Drives	CHA04LS
	Computer as Slave (COM)	C02001
	Computer as Master (COM)	C02011
	Computer as Slave V2 (COM)	C02021
	Computer as Master V2 (COM)	C02031
HOLIP ELECTRONIC TECHNOLOGY CO., LTD	HLP-C+/CP	CHLP01
Honeywell	BACnet/MSTP	cbacmst
	BACnet	cbacnet
Hunjoen Electronic Co., Ltd.	H_Tech PID CONTROLLER	Chtech1
HUST Automation Inc.	CNC Controller	CHCNC01
Idec Corporation	FC Series	C22001
	H2u (CPU Port)	C2B041
Inovance Control Technology Co., Ltd.	MD Series Inverter (RTU)	C2C051
Integrated Flow Systems	iPurge Source Controller	CIF001
JETTER	NANO Series	C24001
Brand	Model	Driver Name
JETTER	JetControl 24x Series	C24011
	KV Series	C25001
	KV-1000	C25011
	KV-L20V	C25021

Brand	Model	Driver
Klockner Moeller Corporation	PS4-201-MM1	C26001
	SUCONET K	CSUK01
	K Sequence Series	C27001
	Direct Logic Series	C27011
	Direct 06 Series (K Sequence)	C27021
	Direct 06 Series (DirectNET)	C27031
Lenze Drive Systems GmbH	93xx Servo Controllers (LECOM A/B)	CLZ001
	Master-K Series CNet	C28001
	K120S CPU Port	C28011
	Master-K Loader	C28011
	GLOFA GM Series CNet	C28021
	XBM-DR16S	C28031
	GLOFA GM Loader	C28041
	XEC/XGI CNet	C28051
LG System	LGA Series(as Slave)	CLGLGA
	LGA Series (as Master)	CLGLGB
Liyan Electric Industrial Ltd.	EX Series (CPU Port)	C2B141
Lust Antriebstechnik GmbH	LustBus ServoC/CDE Series	Clust1
	LustBus CDD Series	Clust1
Matsushita Electric Works	FP Series Computer Link	C29001
	VFOC Series Inverter	C29011
Maxtech	MC2 PID Controller	C85001
Maxthermo	MC 5738 (RTU)	C86001
Micro Trend Corporation	UTC Servo Controller	C91001
Mirle Automation Corporation	nDX Controller	C2A001
	Melsec-FX (CPU Port)	C2B001
	Melsec-Q/OnA (Link Port)	C2B011
	Melsec-Q00/01 (CPU Port)	C2B012
	Melsec-Q02H (CPU Port)	C2B021
	Melsec-Q00J (CPU Port)	C2B031
	Melsec-FX2n (CPU Port)	C2B041
	Melsec-FX3U (CPU Port)	C2B051
	Melsec-FX3U (Link Port)	C2B052
	Melsec-AnN/AnS (Link Port)	C2B061
	FX2n-10GM/20GM	C2B071
	Melsec-A1S/A2S (CPU Port)	C2B081
	FR-E500 Series (485)	C2B091
	Melsec-A3N/A1SH (CPU Port)	C2B0A1
	Melsec-AnA/AnU (Link Port)	C2B151
	Servo Amplifier MR-J2S-A	C2B161
	Melsec-A2A/A2AS (CPU Port)	C2B171
	Melsec-Q06H (CPU Port)	C2B181
Mitutoyo Corporation	EV Linear Gage Counter (ASCII)	CMITDEV
	Modicon 984 Master (RTU)	C2C021
	Modicon 984 Master (RTU; Little Memory)	C2C022
	Modicon 984 Device/Slave (RTU)	C2C031
	Modbus Master (ASCII)	C2C061
	Modbus Master (ASCII; Little Memory)	C2C062
	Modbus Device/Slave (ASCII)	C2C071
	Modicon Device/Slave (RTU, Quantum)	C2C081
	TSX Premium (Uni-Telway)	C2C0A1
	TSX Quantum (Uni-Telway)	C2C0B1
	Twido (Modbus RTU)	C2C0C1
	Modbus Master (RTU; Non-volatile slave data)	C2C121
	Modbus Master (ASCII; Non-volatile slave data)	C2C161
MTC	MTC96 Controller (Modbus ASCII)	C93001
Muscle Corporation Inc.	Cool Muscle CM1-17L30	CCM117L
	PSTC (Temperature Controller)	C2C051
	PSBD (Brushless Driver)	C2C051
	PSSD (Stepping Driver)	C2C051
	PSMC (Motion Controller)	C2C051
	PSNC (Embedded NC)	C2C051
	Sysmac C Series Host Link	C2D001
	Sysmac CV Series Host Link	C2D011
	Sysmac CS/CJ Series Host Link	C2D021
	Sysmac CS/CJ Series (FINS)	C2D021
	E5CN Temperature (CompoWay/F)	C2D041
	E5CN Temperature (Modbus RTU)	C2D051
	EJ1 Temperature (CompoWay/F)	C2D061
	KM100 (CompoWay/F)	C2D071
	Sysmac CP Series (FINS)	C2D021

Brand	Model	Driver
PanelMaster	Null PLC	C00000
	General Device (COM)	C01051
	Profibus-DP Slave EP0920	C01081
	Data Sharer (RS485)	C01S01
	Modbus Master (RTU)	C2C041
	Modbus Master (RTU; Little Memory)	C2C042
	Modbus Master (RTU; Non-volatile slave data)	C2C121
	Modbus Device/Slave (RTU)	C2C051
	Modbus Device/Slave (Word order in big-endian)	C2C052
	Modbus Device/Slave (RTU; No block read)	C2C051
	Modbus Device/Slave (ASCII)	C2C071
	Modbus Device/Slave (ASCII; No block read)	C2C093
	Barcode Scanner	cbcode
	Epson Matrix Printer	CEPSON0
	N-to-1 Master (COM)	C01001
Pan-Globe Corp.	2-to-1 Server (COM)	C01061
	2-to-1 Transparent Server (COM)	C01062
	2-to-1 Client (COM)	C01071
Pan-Globe Corp.	Multi-drop Client (COM)	C01011
	E9 Temperature Series	C90001
	E904 Temperature (RTU)	C90011
RICH Electric Co., LTD.	HT Series Temperature Controller	C90021
	EI-500 Series (RTU)	CEI500
RKC Instrument Inc.	EI-9001 Series (RTU)	CEI9001
	MA900/CB900 Series (RTU)	C82001
Saia Burgess	CD/CH Series (ASCII)	C82002
	PCD Series (S-Bus PGU)	C31001
Samwon Technology	PCD Series (S-Bus, Data Mode)	C31003
	NOVA Series (RTU)	C88001
Schneider Electric	Lexium 23 Servo Controller (ASCII)	C16041
	Others : see Telemecanique or Modicon list	
Sharp Corporation	JW10/20 Series	CSJW10
Shenzhen Step Servo Ltd.	Kinco Servo Controller	C50001
Shihlin Electric&Engineering Corp.	SH Inverter	CSSH01
SHIMAX CO., LTD.	MAC3 Series (RTU)	CSHI01
Shinko Technos Co., Ltd.	CPT-20A MODBUS DEVICE/SLAVE (ASCII)	CSCCT1
	JCS-33A-R/M (Shinko Protocol)	CSJCS01
	JCS-33A-R/M (Modbus ASCII)	CSJCS11
Siemens AG	Simatic S7-200 (PPI; 1-to-1)	C39001
	Simatic S7-200 (PPI; Network)	C39011
	Simatic S7-300 (MPI Port)	C39021
	Simatic S7-300 (PC Adaptor)	C39031
	Simatic S5 3964R	C39041
	Simatic S5	C39051
Taian Automation Co.,Ltd.	TP03 Series (Modbus RTU)	C51011
	TP02 Series	C51021
Taiwan Instrument & Control Co., Ltd.	TAIE FY100/900 Series (RTU)	CFY001
	TAIE FY100/900 Series (TAIE)	CFY002
	FY series DIGITAL PID CONTROLLER	CTAIEFY
Teco Electric & Machinery Co.,Ltd.	TSDA Series AC Servo	C51001
	TP03 Series (Modbus RTU)	C51011
	TP02 Series	C51021
Telemecanique (Schneider Electric)	TSTA Series AC Servo	C51031
	TSX Premium (Uni-Telway)	C2C0A1
	TSX Quantum (Uni-Telway)	C2C0B1
	Twido (Modbus RTU)	C2C0C1
	Modbus Master (RTU; Non-volatile slave data)	C2C121
	Modbus Master (ASCII; Non-volatile slave data)	C2C161
Texas Instruments Incorporated	TI505	CTI505
Thinget Electronic Co., Ltd.	XC Series Controller (RTU)	C89001
Tieon Electronics Co., Ltd.	IPC-03 Series (RTU)	C83001
TOHO Electronics Inc.	TTX-700 (Modbus RTU)	C3D001
	TTM-000 Series (TOHO Protocol)	C3D002
	TTM-200 Series (TOHO Protocol)	C3D003
TOKY ELECTRICAL	DW8-CD18B	CTDW80
Toshiba Schneider Inverter Corporation	TOSVERT VF Series (Modbus RTU)	C84001
Unitronics	Vision 120 Series (Modbus RTU)	C4A001
Vertex Technology Co., Ltd	VT26/30 Series Controllers (RTU)	CVVT26

Brand	Model	Driver
Vigor Corporation	M/VB Series	C42001
Wanfeng Electric	WF Series	C42001
YAMAHA MOTOR CO., LTD.	Single-axis Robot Controller ERCD	CYAERCD
Yamatake Corporation	SDC35/36 Temperature (RTU)	C44001
	SDC35/36 Temperature (ASCII)	C44011
	MA500 FA Controller (ECL Host)	C44021
	DMC10 Controller (RTU)	C44031
	DMC10 Controller (ASCII)	C44041
	MX30	CYAMX30
Yaskawa Corporation	MX50	CYAMX50
	Σ-II SGDM/H Series AC Servo	C45001
	MP Series Controller (Memobus)	C45011
	V7 inverter (Memobus)	C45021
	NS600 Servo Controller	C45031
YE-LI ELECTRIC & MACHINERY Co., Ltd.	YPV Servo Controller	cyell1
	YJD Servo Controller	cyell2
Yokogawa Electric Corporation	FA-M3 Series (CPU Port)	C46001
Yudian Automation Technology Ltd.	AI-7048 (AiBus)	C47001
	AI518/708/808/518P/708P/808P Controller (Albus)	C47011
Zhuohai Motion Control Motor Co., Ltd.	BP Series PSDA driver (RTU)	C2CBP1

Communication Port (Ethernet)

Brand	Model	Driver
Allen Bradley	MicroLogix 1000/1500 via 1761-NET-ENI	C10E01
Advantech Corp. Ltd	ADAM-5000 series	-
	APAX-5000 series	-
CMZ Sistemi Elettronici	FCT Controllers (TCP/IP)	C2C011
	FCT Controllers (TCP/IP; Type 2)	C2C111
Fatek Automation Corp.	Fatek FBs/FBe (TCP)	C1A011
Hitachi Industrial Equipment Systems Co., Ltd	EH/EHV Series (Ethernet; TCP)	C1F006
Honeywell	EH/EHV Series (Ethernet; UDP)	C1F007
	BACnet/IP	cbacip
JETTER	JetControl 24x Series (Ethernet)	C24012
Lenze Drive Systems GmbH	E94AYCEN GCI(TCP/IP) Protocol	CLZ003
Mitsubishi Electric Corp.	Q Ethernet	C2BE11
Modicon Corp.	ModBus Master (TCP/IP)	C2C001
	ModBus Device/Slave (TCP/IP)	C2C011
	ModBus Master (TCP/IP; Type 2)	C2C101
	ModBus Device/Slave (TCP/IP; Type 2)	C2C111
Omron Corporation	Sysmac CS/CJ Series FINS/TCP	C2DE01
	Data Sharer (UDP)	C01E01
PanelMaster	Ping	C0Ping
	Modbus Device/Slave (TCP/IP)	C2C011
	N-to-1 Master (Ethernet)	C01021
	N-to-1 Slave (Ethernet)	C01031
	N-to-1 Client (Ethernet)	C01091
Saia Burgess	PCD Series (Ether-S-Bus)	C31007
Schneider Electric	Others : See Modicon List	
Siemens AG	Simatic S7-300 Ethernet Module (CP343)	C39E01
Telemecanique (Schneider Electric)	Others : See Modicon List	
Yaskawa Corporation	ModBus Device/Slave (TCP/IP)	C2C011
	Extended MEMOBUS	C45013

Note:

- The listing brand names are in alphabetical order.
- Driver Programs may be updated at any time, please contact with your Advantech representative at any time to confirm latest information.

Key Features:

- High-performance discrete drive to support high data acquisition.
- The Communication speed of Simatic S7-300 (MPI port) can reach 187.5 kbps without adapter.

Regional Service & Customization Centers

China	Kunshan 86-512-5777-5666	Taiwan	Taipei 886-2-2792-7818	Netherlands	Eindhoven 31-40-267-7000	Poland	Warsaw 48-22-33-23-730	USA	Milpitas, CA 1-408-519-3800
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Worldwide Offices

Greater China

China	
Toll Free	800-810-0345
Beijing	86-10-6298-4346
Shanghai	86-21-3632-1616
Shenzhen	86-755-8212-4222
Chengdu	86-28-8545-0198
Hong Kong	852-2720-5118

Taiwan	
Toll Free	0800-777-111
Rueiguang	886-2-2792-7818
Yang Guang	886-2-2792-7818
Shing-Tien	886-2-2218-4567
Taichung	886-4-2378-6250
Kaohsiung	886-7-229-3600
Hsinchu	886-3-516-9320

Asia Pacific

Japan	
Toll Free	0800-500-1055
Tokyo	81-3-6802-1021
Osaka	81-6-6267-1887
Korea	
Toll Free	080-363-9494
Seoul	82-2-3663-9494

Singapore	
Singapore	65-6442-1000

Malaysia	
Toll Free	1800-88-1809
Kuala Lumpur	6-3-7724-3555
Penang	60-4-397-3788
	60-4-397-4188

Thailand	
Bangkok	66-2-248-3140

India	
Toll Free	1800-425-5070
Bangalore	91-80-2337-4567

Australia	
Toll Free	1300-308-531
Melbourne	61-3-9797-0100
Sydney	61-2-9482-2443

Indonesia	
Indonesia	62-21-7690525

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

Europe

Toll Free	00800-2426-8080
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Germany	
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

Benelux & Nordics	
Breda	31-76-5233100
Roosendaal	31-165-550-505

UK	
Berkshire	44-1344-3812210

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

Americas

North America	
Toll Free	1-800-205-7940
	1-888-576-9668
Cincinnati	1-513-742-8895
Milpitas	1-408-519-1788
Irvine	1-949-789-7178

Brazil	
Toll Free	0800-770-5355
Saude-São Paulo	55-11-5592-5355

ADVANTECH
eAutomation

BMC DR. SCHETTER

www.bmc.de

Dr. Schetter BMC GmbH
Boschstrasse 12
82178 Puchheim
TEL **089 800 694 - 0**
FAX 089 800 694 - 29

