5

Intelligent Operator Panel

Operator Panel Selection Guide		*5-2*
Web Operator Panels		
WebOP-3120T	12" SVGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range	*5-4*
WebOP-3100T	10.1" WSVGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range	*5-6*
WebOP-3070T	7" WVGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range	*5-8*
TPC-31T **TPC-61T**	3.5"/5.7" QVGA TFT LED LCD TI Cortex-A8 Touch Panel Computer	*5-10*
Entry Operator Panels		
WebOP-2100T	10.1 WSVGA Operator Panel with WebOP Designer Software	*5-12*
WebOP-2080T	8" SVGA Operator Panel with WebOP Designer Software	*5-14*
WebOP-2070T	7" WVGA Operator Panel with WebOP Designer Software	*5-16*
WebOP-2050T	5.6" QVGA Operator Panel with WebOP Designer Software	*5-18*
WebOP-2040T	4.3" WQVGA Operator Panel with WebOP Designer Software	*5-20*
Supported PLC and Controllers list	Communication Port	*5-22*

To view all of Advantech's Operator Panels, please visit www.advantech.com/products.



Selection Guide

NEW NEW NEW







Model		TPC-31T	TPC-61T	WOP-3070T	WOP-3100T	WOP-3120T
Ordering Information		TPC-31T-E3AE	TPC-61T-E3AE	WOP-3070T-C4AE	WOP-3100T-C4AE	WOP-3120T-C4AE
CPU		RISC 32 bits, 600 MHz (ARM® Cortex™-A8)	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)
Backup Memory		FRAM 128KB	FRAM 128KB	FRAM 1M bit (=128K Byte, 64word)	FRAM 1M bit (=128K Byte, 64word)	FRAM 1M bit (=128K Byte, 64word)
Working Memory		DDR2 256M Bytes	DDR2 256M Bytes	DDR2 256M Bytes	DDR2 256M Bytes	DDR2 256M Bytes
Storage		512MB on board SLC type	512MB on board SLC type	512MB on board SLC type	512MB on board SLC type	512MB on board SLC type
Operating System		Microsoft® Windows CE 6.0	Microsoft® Windows CE 6.0	Microsoft® Windows CE 6.0	Microsoft® Windows CE 6.0	Microsoft® Windows CE 6.0
		-	-	Panel Express 300 Tags	Panel Express 300 Tags	Panel Express 300 Tags
Display	Type	QVGA TFT LCD	QVGA TFT LCD	WVGA (16:9) TFT LCD	WSVGA (16:9) TFT LCD	XGA TFT LCD
	Size	3.5"	5.7"	7"	10.1"	12"
	Max. Resolution	320 x 240	320 x 240	800 x 480	1024 x 600	1024 x 768
	Max. Colors	65,536 colors	65,536 colors	65,536 colors	65,536 colors	65,536 colors
	Luminance (cd/m²)	450	800	500	550	500
	Viewing Angle (H/V°)	160/140	160/140	140/120	140/110	160/140
	Backlight Life (hr)	LED, 30,000	LED, 50,000	LED, 50,000	LED, 50,000	LED, 50,000
	Dimming	-	-	Adjustable	Adjustable	Adjustable
Touchscreen		4 wires Analog resistive	4 wires Analog resistive	5 wire Analog Resistive	5 wire Analog Resistive	5 wire Analog Resistive
Power-On LED		-	-	Yes	Yes	Yes
Communication LED		-	-	-	-	-
Front USB Access		-	-	-	-	-
Communication Interface	COM1	RS-232/485 (DB9)	RS-232 (DB9)	RS-232/422485 (DB9)	RS-232/422485 (DB9)	RS-232/422485 (DB9)
	COM2	-	RS-232 (DB9)	RS-422/485 (Terminal 4pin+Ground)	RS-422/485 (Terminal 4pin+Ground)	RS-422/485 (Terminal 4pin+Ground)
	COM3	-	RS-422/485 (DB9)	RS-485 (Termianl 2pin)	RS-485 (Termianl 2pin)	RS-485 (Termianl 2pin)
	CAN	CAN (DB9)	-	Termianl 2pin	Termianl 2pin	Termianl 2pin
	Ethernet (RJ45)	10/100-BaseT	10/100-BaseT	10/100-BaseT	10/100-BaseT	10/100-BaseT
I/Os	USB Client	-	USB 2.0	USB 2.0 Client x 1	USB 2.0 Client x 1	USB 2.0 Client x 1
	USB Host	USB 2.0	USB 2.0	USB 2.0 Host x 1 (Top)	USB 2.0 Host x 1 (Top)	USB 2.0 Host x 1 (Top)
	Micro-SD Slot	-	-	Yes	Yes	Yes
	SD Slot	Yes	Yes	-	-	-
	Audio	-	-	1 Lin out / 1 Mic in	1 Lin out / 1 Mic in	1 Lin out / 1 Mic in
	Power Isolation	-	-	Yes	Yes	Yes
	I/O Isolation	-	-	Yes	Yes	Yes
Power Supply Voltage		18 ~ 32 V_{DC}	18 ~ 32 V_{DC}	24VDC ± 10%	24VDC ± 10%	24VDC ± 10%
Power Consumption		8W	12W	7W Typical	9W Typical	12W Typical
Dimensions W x H x D (mm)		120.79 x 85.5 x 26.5 mm (4.76" x 3.37" x 1.04")	195 x 148 x 44.4 mm (7.68" x 5.83" x 1.75")	203.4 x 150 x 43.7 mm (8.01" x 5.91" x 1.72")	271.5 x 213.5 x 43.2 mm (10.69"" x 8.41"" x 1.7"")	311 x 237 x 46.8 mm (12.24" x 9.33" x 1.84")
Cut-out Dimensions W x H (mm)		115 x 79.5 mm (4.6" x 3.18")	189 x 142 mm (7.56" x 5.68")	192 x 138.5 mm (7.56" x 5.45")	259.5 x 201.5 mm (10.22" x 7.93")	302.5 x 228.5 mm (12.1" x 9.14")
Front Panel thickness (mm)		6 mm	6 mm	6 mm	6 mm	6 mm
Enclosure		PC + ABS	PC + ABS	Die-cast aluminum alloy front bezel	Die-cast aluminum alloy front bezel	Die-cast aluminum alloy front bezel
Net Weight		0.25 kg (0.55 lbs)	0.8 kg (1.76 lb)	1 kg (2.20 lbs)	1.2 kg (2.65 lbs)	2.5 kg (5.51 lb)
Operating Temperature		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)
Storage Temperature		-20 ~ 60°C (-4 ~ 140°F)	-20 ~ 60°C (-4 ~ 140°F)	-30 ~ 70°C (-22 ~ 158°F)	-30 ~ 70°C (-22 ~ 158°F)	-30 ~ 70°C (-22 ~ 158°F)
Humidity		10% ~ 90% RH @ 40°C, non-condensing	10% ~ 90% RH @ 40°C, non-condensing	10% ~ 90% RH @ 40°C, non-condensing	10% ~ 90% RH @ 40°C, non-condensing	10% ~ 90% RH @ 40°C, non-condensing
Ingress Protection		Front panel: IP65	Front panel: IP65	Front panel: IP66	Front panel: IP66	Front panel: IP66
Certification		CE / FCC / BSMI / UL	CE / FCC / BSMI / UL	CE / FCC / BSMI / CCC / UL-508	CE / FCC / BSMI / CCC / UL-508	CE / FCC / BSMI / CCC / UL-508
Page		5-4	5-4	5-6	5-8	5-10







WOP-2040T		WOP-2050T	WOP-2070T		WOP-2080T		WOP-2100T	
WOP-2040T-S1AE	WOP-2040T-N1AE	WOP-2050T-S1AE	WOP-2070T-S2AE	WOP-2070T-N2AE	WOP-2080T-S2AE	WOP-2080T-N2AE	WOP-2100T-S2AE	WOP-2100T-N2AE
RISC 32bits, 200MHz		RISC 32bits, 200MHz	RISC 32bits, 200MHz		RISC 32bits, 200MHz		RISC 32bits, 200MHz	
128KB		128KB	128KB		128KB		128KB	
32 MB SDRAM		32 MB SDRAM	64 MB SDRAM		64 MB SDRAM		64 MB SDRAM	
8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash	8MB NOR Flash
-	128M NAND Flash	128M NAND Flash	-	128M NAND Flash	-	128M NAND Flash	-	128M NAND Flash
HMI RTOS, WebOP Designer 2.0								
WQVGA(16:9) TFT LCD		QVGA TFT LCD	WVGA(16:9) TFT LCD		SVGA TFT LCD		WSVGA(16:9) TFT LCD	
4.3"		5.6"	7"		8"		10.1"	
480 x 272		320 x 234	800 x 480		800 x 600		1024 x 600	
65,536 colors		65,536 colors	65,536 colors		65,536 colors		65,536 colors	
400		330	300		250		250	
100/95		130/110	140/130		140/130		140/110	
LED, 20,000		LED, 20,000	LED, 20,000		LED, 30,000		LED, 20,000	
-		-	-		-		-	
4 wires Analog resistive		4 wires Analog resistive	4 wires Analog resistive		4 wires Analog resistive		4 wires Analog resistive	
Yes		Yes	Yes		Yes		Yes	
-		-	-		-		-	
-		-	-		-		-	
RS232/422/485		RS232/422/485 (DB9)	RS232/422/485 (DB9)		RS232/422/485 (DB9)		RS232/422/485 (DB9)	
RS422/485 (Termianl 5pin)		RS422/485 (Termianl 5pin)	RS422/485 (Termianl 5pin)		RS422/485 (Termianl 5pin)		RS422/485 (Termianl 5pin)	
RS232 (COM1: Pin5; 7; 8)		RS232 (COM1: Pin5; 7; 8)	RS232 (COM1: Pin5; 7; 8)		RS232 (COM1: Pin5; 7; 8)		RS232 (COM1: Pin5; 7; 8)	
-		-	-		-		-	
-	10/100-BaseT	-	-	10/100-BaseT	-	10/100-BaseT	-	10/100-BaseT
Yes		Yes	Yes		Yes		Yes	
Yes		Yes	Yes		Yes		Yes	
-	Yes	Yes	-	Yes	-	Yes	-	Yes
-		-	-		-		-	
-		-	-		-		-	
-		-	-		-		-	
-		-	-		-		-	
24 Vdc ± 10%		24 Vdc ± 10%	24 Vdc ± 10%		24 Vdc ± 10%		24 Vdc ± 10%	
5W		10W	10W		10W		10W	
130 x 106.2 x 36.4 mm (5.11" x 4.18" x 1.43")		188 x 143.3 x 30 mm (7.4" x 5.64" x 1.18")	188 x 143.3 x 30 mm (7.4" x 5.64" x 1.18")		231.5 x 174.6 x 37 mm (9.11" x 6.87" x 1.46")		269.8 x 212 x 37.4 mm (10.62" x 8.35" x1.47")	
118.5 x 92.5 mm (4.66" x 3.64")		175 x 132.5 mm (6.89" x 5.21")	175 x 132.5 mm (6.89" x 5.21")		221 x 164 mm (8.70" x 6.46")		259.5 x 201.5 mm (10.22" x 7.93")	
5 mm		6 mm	6 mm		6 mm		6 mm	
PC + ABS		PC + ABS	PC + ABS		PC + ABS		PC + ABS	
0.3 kg (0.66 lbs)		0.51 kg (1.12 lbs)	0.6 kg (1.32 lbs)		0.93 kg (2.05 lbs)		1.2 kg (2.64 lbs)	
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)	
-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)	
10% ~ 90% RH @ 40°C, non-condensing		10% ~ 90% RH @ 40°C, non-condensing	10% ~ 90% RH @ 40°C, non-condensing		10% ~ 90% RH @ 40°C, non-condensing		10% ~ 90% RH @ 40°C, non-condensing	
Front panel: IP66		Front panel: IP66	Front panel: IP66		Front panel: IP66		Front panel: IP66	
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	
5-12		5-14	5-16		5-18		5-20	

WebOP-3120T

12" XGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range

NEW



Features

- RISC 32 bits TI ARM® Cortex™-A8 processor
- Various LCD sizes (7", 10.1", 12")
- Full line LED BL TFT LCD with 50K life time
- Embedded Microsoft® WinCE 6.0 OS
- Bundle Panel Express HMI Runtime software (300 tags)
- Backup Memory FRAM in 128KB (64 words) without battery concern
- Power & Terminal I/O ports isolation protection
- -20°C ~ 60°C wide operating temperature range
- Supports CANopen library registered by CiA 301 V4.02
- RS-422/RS-485/CAN terminal I/O ports support Termination Resistor 120Ω
- Front panel IP66 compliant
- Die-cast aluminum alloy front bezel
- Level 4 ESD protection (Air:15KV / Contact:8KV)
- Industrial Control Equipment - UL 508 certification

Introduction

With a brand-new ID design, the WebOP-3120T provides stringent standards required in the automation market. Advantech offers the WebOP-3120T with Cortex™-A8 processor which consumes minimum power without sacrificing performance. The WebOP-3000T supports a variety of LCD sizes from 4.3" to 12" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. It's also provided with a wide operating temperature range to fulfill the requirements of harsh environments. The built-in Microsoft® WinCE 6.0 OS platform which bundles WebOP Designer lets the WebOP-3120T become a control HMI solution for flexible system integration.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 311.8 x 238 x 54.5 mm (12.28" x 9.37" x 2.15")
- **Cut-out Dimensions** 302.5 x 228.5 mm (12.1" x 9.14")
- **OS Support** Microsoft® Windows CE 6.0
- **Power Input** 24 V_{DC} ±10%
- **Power Consumption** 20 W
- **Enclosure Housing** PC + ABS
- **Mounting** Panel
- **Weight (Net)** 2.5 kg (5.51 lb)

System Hardware

- **CPU** RISC 32 bits, 600 MHz (ARM® Cortex™-A8)
- **Backup Memory** FRAM 1M bit (=128K Byte, 64 word)
- **Memory** DDR2 256M Bytes
- **Storage** 512MB on board SLC type
- **Power-On LED** Yes

Communication Interface

- **COM1** RS-232/RS-422,RS-485 (DB9), 300~115.2 kbps
- **COM2** RS-422/RS-485 (Terminal 4 pin+Ground), 300~115.2 kbps
- **COM3** RS-485 (Terminal 2 pin), 300~115.2 kbps
- **CAN** Terminal 2 pin
- **Ethernet (RJ45)** 10/100-BaseT
- **I/Os**
  - USB Client: USB 2.0 Client x 1
  - USB Host: USB 2.0 Host x 1 (Top)
  - Micro-SD Slot: Yes
  - Audio: 1 Line-out / 1 Mic-in

LCD Display

- **Display Type** XGA TFT LCD
- **Display Size** 12"
- **Max. Resolution** 1024 x 768
- **Max. Colors** 64K
- **Luminance (cd/m²)** 500
- **Viewing Angle (H/V)** 160/140
- **Backlight Life** LED, 50,000 hrs
- **Dimming** Adjustable by touch panel
- **Contrast Ratio** 500:1

Touchscreen

- **Lifespan** 36 million touches at 8mm-diameter finger point through silicone rubber bearing at least 250g 2 times per second.
- **Light** Transmission Above 80%
- **Resolution** Linearity
- **Type** 5-wire, analog resistive

Environment

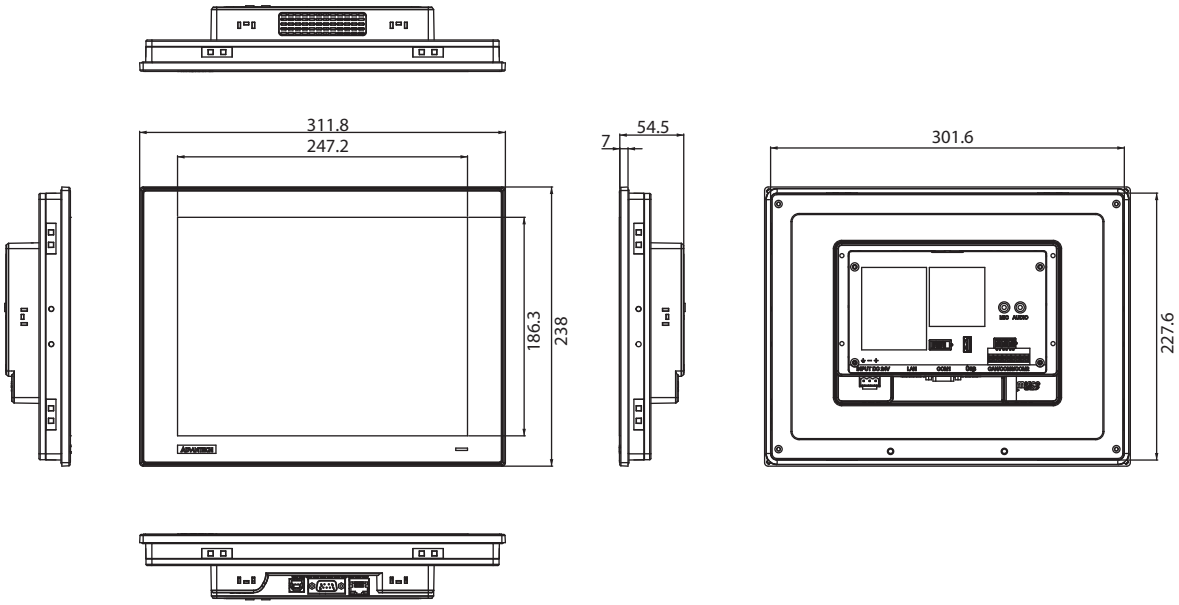
- **Operating Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Storage Temperature** -30 ~ 70°C (-22 ~ 158°F)
- **Humidity** 10% ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel: IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-3120T-C4AE** 12" XGA, Cortex™-A8, 256MB DDR, WinCE 6.0

Dimensions

Unit: mm



Panel Cut-out Dimensions: 302.5 x 228.5 mm (12.1" x 9.14")

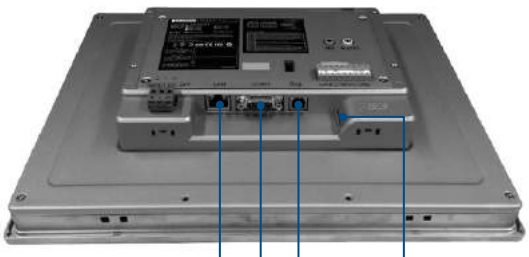
Accessories

- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **WOP-3000T-WMKE** WOP-3000T Series Wallmount Kits
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

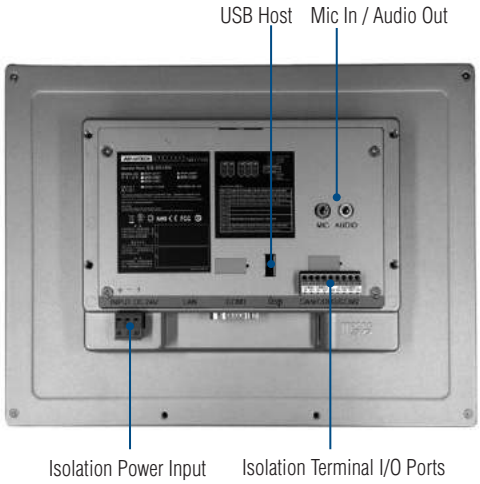
Automation Software

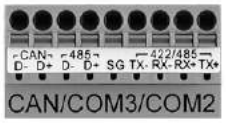
- **968WEXP015E** PanelExpress V2.0 1500 tags S/W license (WinCE)
- **968WEXP050E** PanelExpress V2.0 5000 tags S/W license (WinCE)

Base View



Rear View





Isolation Terminal I/O Ports

WebOP-3100T

10.1" WSVGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range

NEW



Features

- RISC 32 bits TI ARM® Cortex™-A8 processor
- Various LCD sizes (7", 10.1", 12", 15")
- Full line LED BL TFT LCD with 50K life time
- Embedded Microsoft® WinCE 6.0 OS
- Supports WebOP Designer HMI Runtime development tool
- Backup Memory FRAM in 128KB(64 words) without battery concern
- Power & Terminal I/O ports isolation protection
- -20°C ~ 60°C wide operating temperature range
- Supports CANopen library registered by CiA 301 V4.02
- RS-422/RS-485/CAN terminal I/O ports support Termination Resistor 120Ω
- Front panel IP66 compliant
- Die-cast aluminum alloy front bezel
- Level 4 ESD protection (Air:15KV / Contact:8KV)
- Industrial Control Equipment - UL 508 certification

Introduction

With brand-new ID design, the WebOP-3100T provides stringent standards required in the automation market. Advantech offers the WebOP-3100T with Cortex™-A8 processor which consumes minimum power without sacrificing performance. The WebOP-3000T supports a variety of LCD sizes from 4.3" to 15" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. It's also provided with a wide operating temperature range to fulfill the requirements of harsh environments. The built-in Microsoft® WinCE 6.0 OS platform which bundles WebOP Designer lets the WebOP-3100T become a control HMI solution for flexible system integration.

Specifications

General

Certification	CE, BSMI, CCC, UL, FCC Class A
Dimensions (WxHxD)	271.5 x 213.5 x 43.2 mm (10.69" x 8.41" x 1.7")
Cut-out Dimensions	260 x 201.5 mm (10.24" x 7.93")
OS Support	Microsoft® Windows CE 6.0
Power Input	$24V_{DC}$ ±10%
Power Consumption	9W (Typical)
Enclosure Housing	PC + ABS
Mounting	Panel
Weight (Net)	1.2 kg (2.65 lbs)

System Hardware

CPU	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)
Backup Memory	FRAM 128KB
Memory	DDR2 256MB on board
Storage	512MB on board SLC type
Power-On LED	Yes

Communication Interface

COM1	RS-232/422/485 (DB9 Male)	
COM2	RS-422/485 (Terminal Plug 4-Pin)	
COM3	RS-485 (Terminal Plug 2-Pin)	
CAN	Terminal Plug 2-Pin	
Ethernet (RJ45)	10/100-BaseT	
I/Os	USB Client	USB 2.0 Client x 1
	USB Host	USB 2.0 Host x 1
	Micro-SD Slot	Yes
	Audio	1 Line-out / 1 Mic-in

LCD Display

Display Type	WSVGA TFT LCD
Display Size	10.1"
Max. Resolution	1024 x 600
Max. Colors	64K
Luminance (cd/m2)	550
Viewing Angle (H/V)	140/110
Backlight Life	LED, 50,000 hrs
Dimming	Adjustable by touch panel
Contrast Ratio	500:1

Touchscreen

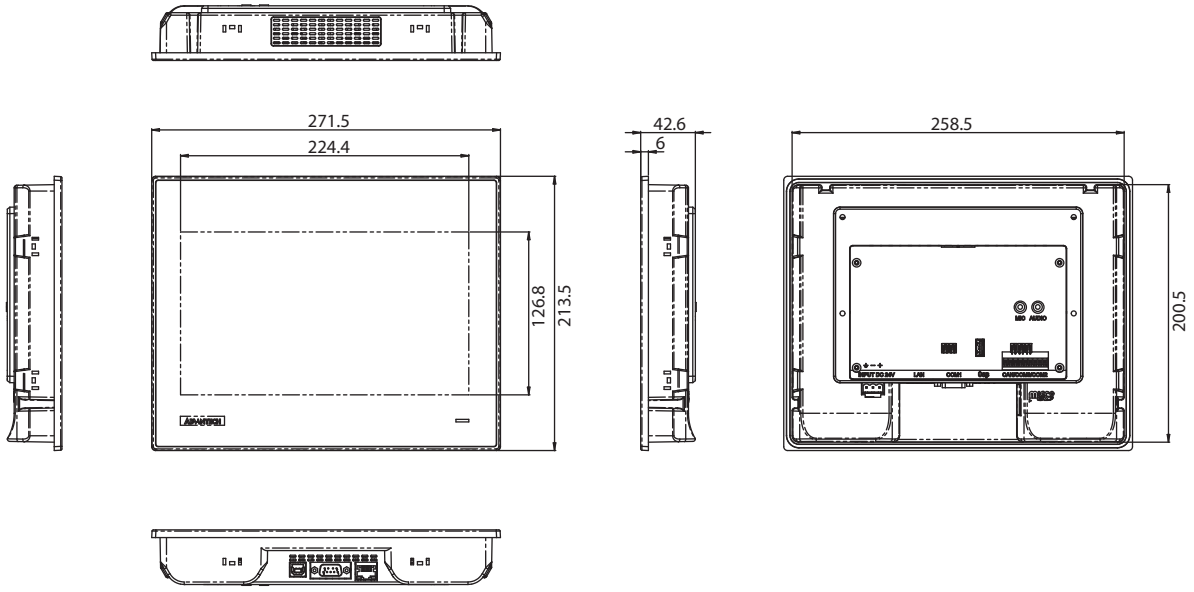
Lifespan	36 million touches at 8mm-diameter finger point through silicone rubber bearing at least 250g 2 times per second.
Light	Transmission Above 80%
Resolution	Linearity
Type	5-wire, analog resistive

Environment

Operating Temperature	-20 ~ 60°C (-4 ~ 140°F)
Storage Temperature	-30 ~ 70°C (-22 ~ 158°F)
Humidity	10 ~ 90% RH @ 40°C, non-condensing
Ingress Protection	Front panel: IP66
Vibration Protection	Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Dimensions

Unit: mm



Panel Cut-out Dimensions: 260 x 201.5 mm (10.24" x 7.93")

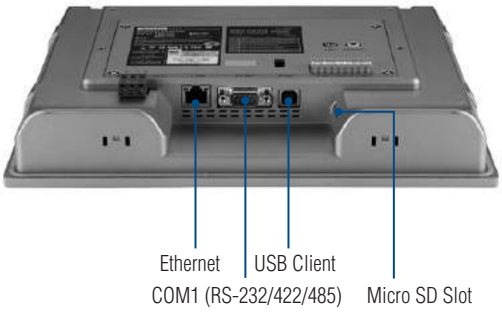
Ordering Information

- **WOP-3100T-C4AE** 10.1" WSVGA, Cortex™-A8, 256MB DDR, WinCE 6.0

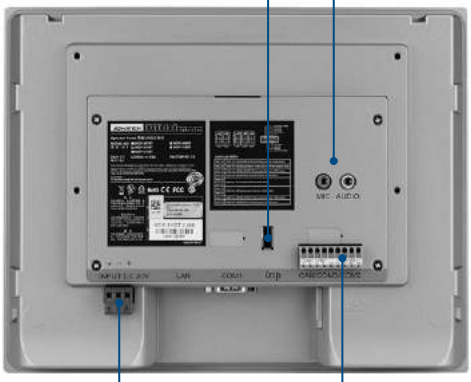
Accessories

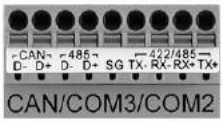
- **PWR-247-AE** 24 V 50 W AC-DC Power Adapter
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1702031836** Power Cable China/Australia Plug 1.8 M

Base View



Rear View





Isolation Terminal I/O Ports

WebOP-3070T

7" WVGA Cortex™ - A8 Operator Panel with Wide Operating Temperature Range

NEW



Features

- RISC 32 bits TI ARM® Cortex™-A8 processor
- Various LCD sizes (7", 10.1", 12", 15")
- Full line LED BL TFT LCD with 50K life time
- Embedded Microsoft® WinCE 6.0 OS
- Supports WebOP Designer HMI Runtime development tool
- Backup Memory FRAM in 128KB(64 words) without battery concern
- Power & Terminal I/O ports isolation protection
- -20°C ~ 60°C wide operating temperature range
- Supports CANopen library registered by CiA 301 V4.02
- RS-422/RS-485/CAN terminal I/O ports support Termination Resistor 120Ω
- Front panel IP66 compliant
- Die-cast aluminum alloy front bezel
- Level 4 ESD protection (Air:15KV / Contact:8KV)
- Industrial Control Equipment - UL 508 certification

Introduction

With brand-new ID design, the WebOP-3070T provides stringent standards required in the automation market. Advantech offers the WebOP-3070T with Cortex™-A8 processor which consumes minimum power without sacrificing performance. The WebOP-3000T supports a variety of LCD sizes from 4.3" to 15" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. It's also provided with a wide operating temperature range to fulfill the requirements of harsh environments. The built-in Microsoft® WinCE 6.0 OS platform which bundles WebOP Designer lets the WebOP-3070T becomes a control HMI solution for flexible system integration.

Specifications

General

Certification	CE, BSMI, CCC, UL, FCC Class A
Dimensions (WxHxD)	203.4 x 150 x 43.7 mm (8.01" x 5.91" x 1.72")
Cut-out Dimensions	192 x 138.5 mm (7.56" x 5.45")
OS Support	Microsoft® Windows CE 6.0
Power Input	$24V_{DC}$ ±10%
Power Consumption	7W (Typical)
Enclosure Housing	PC + ABS
Mounting	Panel
Weight (Net)	1 Kg (2.20 lbs)

System Hardware

CPU	RISC 32 bits, 600 MHz (ARM® Cortex™-A8)
Backup Memory	FRAM 128KB
Memory	DDR2 256MB on board
Storage	512MB on board SLC type
Power-On LED	Yes

Communication Interface

COM1	RS-232/422/485 (DB9 Male)	
COM2	RS-422/485 (Terminal Plug 4-Pin)	
COM3	RS-485 (Terminal Plug 2-Pin)	
CAN	Terminal Plug 2-Pin	
Ethernet (RJ45)	10/100-BaseT	
I/Os	USB Client	USB 2.0 Client x 1
	USB Host	USB 2.0 Host x 1
	Micro-SD Slot	Yes
	Audio	1 Line-out / 1 Mic-in

LCD Display

Display Type	WVGA TFT LCD
Display Size	7"
Max. Resolution	800 x 480
Max. Colors	64K
Luminance (cd/m²)	500
Viewing Angle (H/V)	140/120
Backlight Life	LED, 50,000 hrs
Dimming	Adjustable by touch panel
Contrast Ratio	700:1

Touchscreen

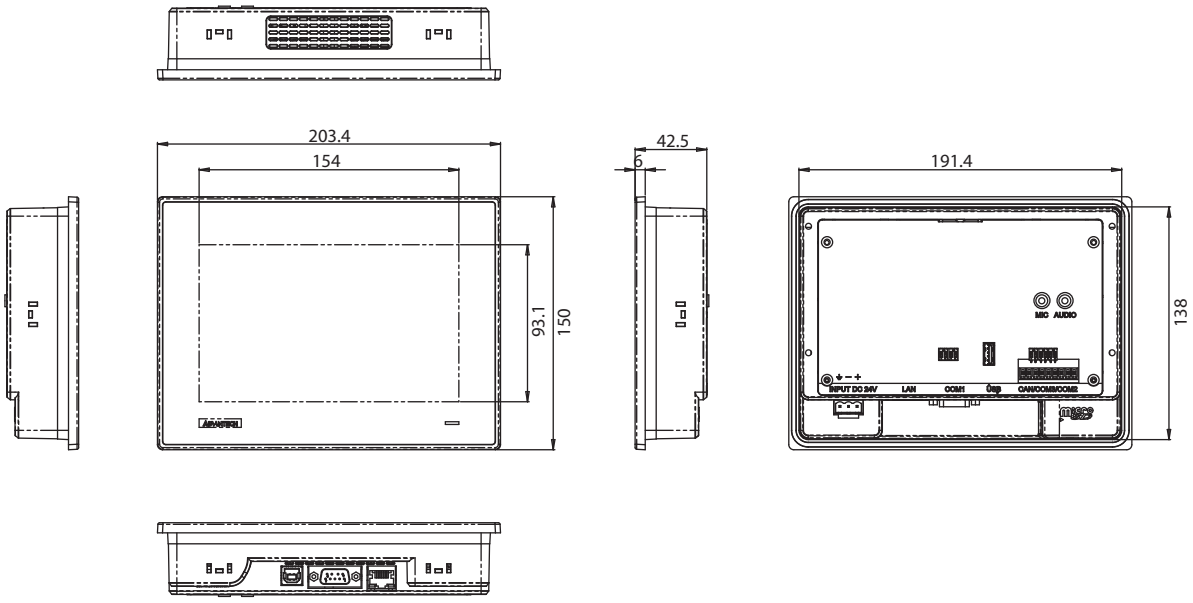
Lifespan	36 million touches at 8mm-diameter finger point through silicone rubber bearing at least 250g 2 times per second.
Light	Transmission Above 80%
Resolution	Linearity
Type	5-wire, analog resistive

Environment

Operating Temperature	-20 ~ 60°C (-4 ~ 140°F)
Storage Temperature	-30 ~ 70°C (-22 ~ 158°F)
Humidity	10 ~ 90% RH @ 40°C, non-condensing
Ingress Protection	Front panel: IP66
Vibration Protection	Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Dimensions

Unit: mm



Panel Cut Out Dimensions: 192 x 138.5 mm (7.56" x 5.45")

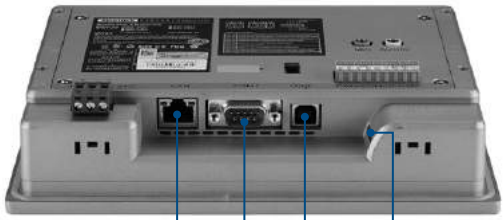
Ordering Information

- **WOP-3070T-C4AE** 7" WVGA, Cortex™-A8, 256MB DDR, WinCE 6.0

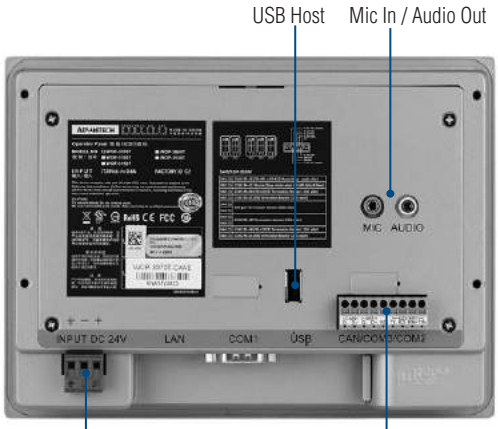
Accessories

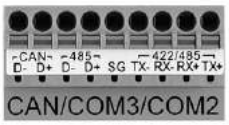
- **PWR-247-AE** 24 V 50 W AC-DC Power Adapter
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1702031836** Power Cable China/Australia Plug 1.8 M

Base View



Rear View





Isolation Terminal I/O Ports

TPC-31T
TPC-61T

3.5"/5.7" QVGA TFT LED LCD TI Cortex-A8 Touch Panel Computer



Features

- TI Cortex-A8 processor on board
- 3.5"/5.7" QVGA TFT LED LCD
- Super slim and compact design with plastic housing
- Fanless cooling system
- IP65 compliant front panel
- Built-in micro SD card with Windows® CE OS
- 1 x SD card slot
- Automatic data flow control RS-485
- Supports 1Mbit FRAM for data back-up

Introduction

The TPC-31T/61T model is a compact platform without redundant functions, and has been designed for small-sized operator interface applications. It has a 3.5"/5.7" TFT LCD display which is a cost effective choice for a limited budget. Its RISC kernel, the TI Cortex-A8 processor consumes minimum power without sacrificing performance. The TPC-31T/61T has a 10/100Base-T Ethernet port offering solid communication ability and comes bundled with a Windows® CE OS that supports Thin-Client solutions. The built-in Windows CE OS platform lets the TPC-31T/61T become an Open HMI solution for system integration.

Specifications

General

Certification	CE, BSMI, CCC, UL, FCC Class A
Cooling System	Fanless design
Dimensions (W x H x D)	TPC-31T: 120.79 x 85.5 x 26.5 mm (4.76" x 3.37" x 1.04") TPC-61T: 195 x 148 x 44.4 mm (7.68" x 5.83" x 1.75")
Enclosure	TPC-31T:ABS TPC-61T: PC/ABS Resin
Mounting	Panel
OS Support	Windows CE 6.0
Power Consumption	8 W/12 W (typical)
Power Input	18 ~ 32 V_{DC}
Watchdog Timer	Programmable as 250 ms, 500 ms, 1 second
Weight (Net)	0.25 kg (0.55 lbs)/0.8 kg (1.76 lb)

System Hardware

CPU	TI Cortex-A8 600MHz
Memory	DDR2 256MB on board
LAN	10/100Base-T x 1
Storage	512MB on board micro SD card 1 x SD Card slot 1Mbit FRAM for Data back-up
I/O	TPC-31T: RS-232/RS-485 X1 with auto data flow control, USB 2.0(Host) x 1, CAN x 1 TPC-61T: RS-232 x 2 (COM1,2) RS-422/RS-485 x 1 (COM 3) with auto data flow control, USB2.0 (Host) x 1, USB2.0 (Client) x 1

LCD Display

Display Type	QVGA TFT LED LCD
Display Size	3.5"/5.7"
Max. Resolution	320 x 240
Max. Colors	64 K
Luminance cd/m²	450/800
Viewing Angle (H/V)	160/140
Backlight Life	30,000/50,000 hrs
Contrast Ratio	300:1/800:1

Touchscreen

Lifespan	1 million times with an 8mm diameter finger of silicone rubber
Light	Transmission Above 80%
Resolution	Linearity
Type	4-wire, analog resistive

Environment

Humidity	10 ~ 95% RH @ 40°C, non-condensing
Ingress Protection	Front panel: IP65
Operating Temperature	0 ~ 50°C (32 ~ 122°F)
Storage Temperature	-20 ~ 60°C (-4 ~ 140°F)
Vibration Protection	2 Grms (5 ~ 500 Hz) (Operating, random vibration)

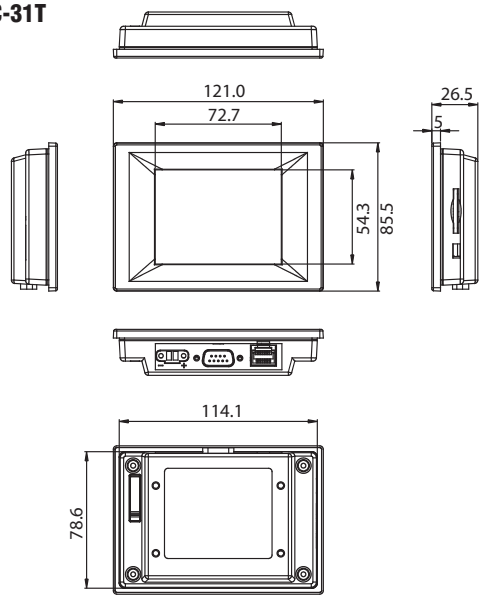
Ordering Information

TPC-31T-E3AE	3.5" QVGA Touch Panel PC, TI AM3517 600 MHz, 256 MB with WinCE 6.0
TPC-61T-E3AE	5.7" QVGA Touch Panel PC TI AM3517 600 MHz, 256 MB with WinCE 6.0

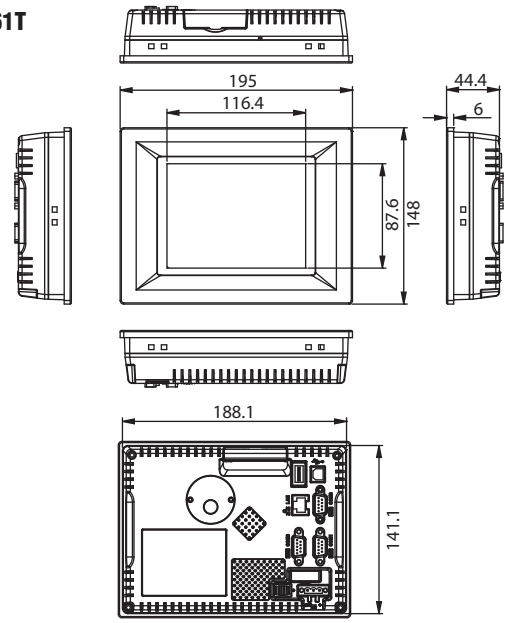
Dimensions

Unit: mm

TPC-31T



TPC-61T



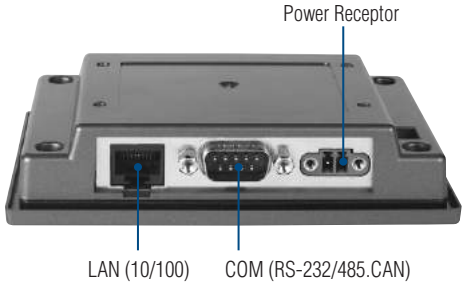
Panel Cut-out Dimensions: TPC-31T: 115 x 79.5 mm (4.6" x 3.18")
TPC-61T: 189 x 142 mm (7.56" x 5.68")

Accessories

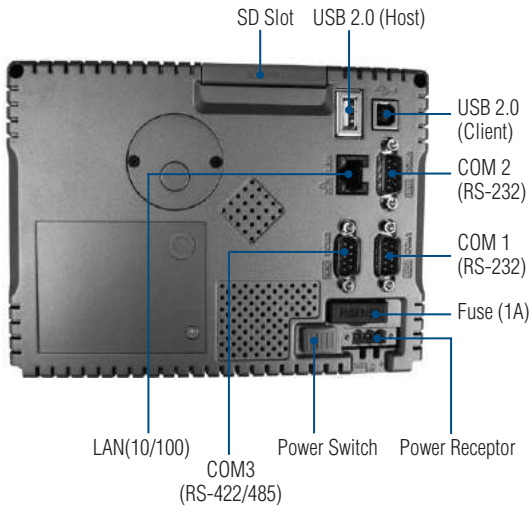
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View

TPC-31T



TPC-61T



WebOP-2100T

10.1 WSVGA Operator Panel with WebOP Designer Software



Features

- Various LCD sizes (4.3", 5.6", 7", 8", 10.1")
- Supports ARM9-based CPUs with 200MHz and 128MB flash memory
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/7/Vista-based WebOP Designer development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 400 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery
- Front panel is IP66 compliant

Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WebOP-2000T series with 200MHz ARM9-based RISC CPU's and 128MB flash memory for application software. The WebOP-2000T series also support a variety of LCD sizes from 4.3" to 10.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. The WebOP-2000T series is bundled with WebOP Designer: a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP Designer offers an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 269.8 x 212 x 37.4mm (10.62" x 8.35" x1.47")
- **Cut-out Dimensions** 259.5 x 201.5 mm (10.22" x 7.93")
- **Front Panel Thickness** 6mm
- **Operating System** HMI RTOS, WebOP Designer
- **Power Supply Voltage** $24V_{DC}$ ±10%
- **Power Consumption** 10W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 1.2 kg (2.64 lbs)

System Hardware

- **CPU** RISC 32bits, 200MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 8MB/ 8MB + 128M NAND flash
- **Power-On LED** Yes
- **Communication LED** No
- **Front USB Access** No

Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-422/485 (5-Pin Plug Connector)
- **COM3** RS-232 (Com1: Pin5;7;8)
- **Ethernet (RJ45)** 10/100-BaseT (for N2AE model)
- **I/Os** USB Client Yes
  USB Host Yes
  Micro-SD Slot Yes (for N2AE model)

LCD Display and Touchscreen

- **Display Type** WSVGA TFT LCD
- **Display Size** 10.1"
- **Max. Resolution** 1024 x 600
- **Max. Colors** 65,536 colors
- **Luminance (cd/m²)** 250
- **Backlight Life** LED, 20,000 hrs
- **Dimming** Adjustable by touch panel
- **Touchscreen** 4 wire analog resistive

Environment

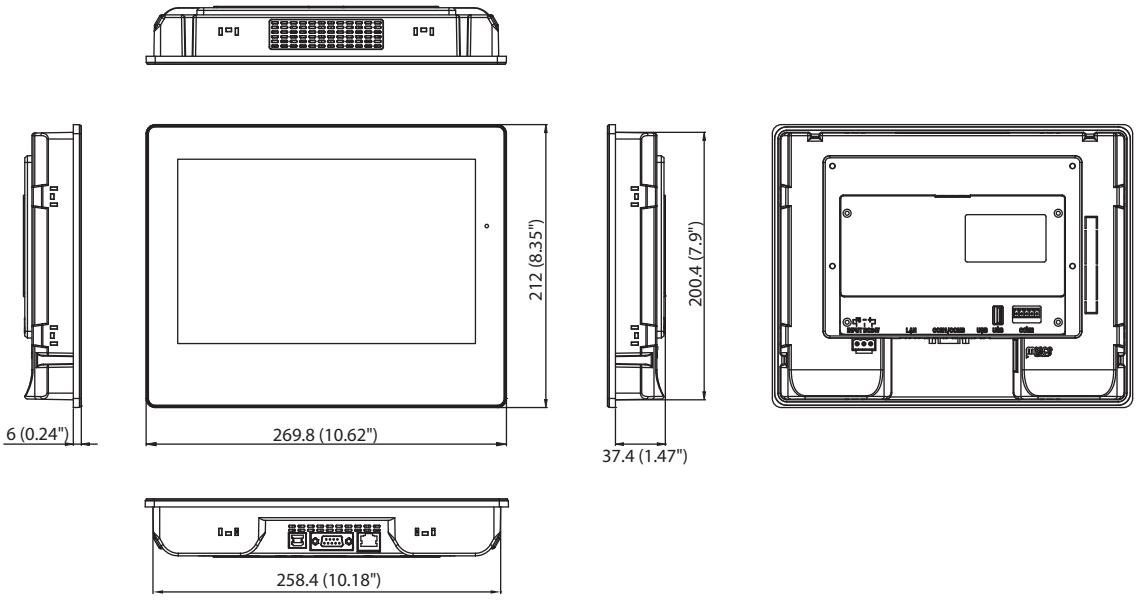
- **Operating Temperature** 0 ~ 50°C (32 ~ 122°F)
- **Storage Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Humidity** 10 ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel: IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-2100T-S2AE** 10.1" WSVGA, 64MB (SDRAM), 8MB (NOR)
- **WOP-2100T-N2AE** 10.1" WSVGA, 64MB (SDRAM), 8MB (NOR) & 128MB (NAND)

Dimensions

Unit: mm

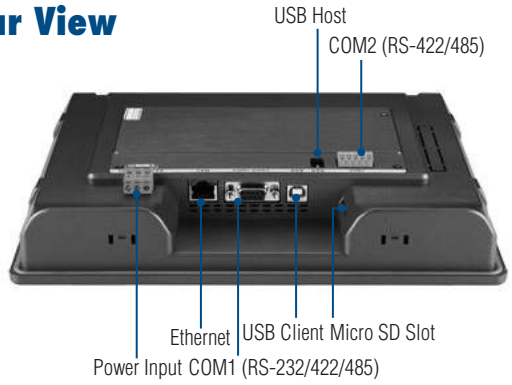


Panel Cut-out Dimensions: 259.5 x 201.5 mm (10.22" x 7.93")

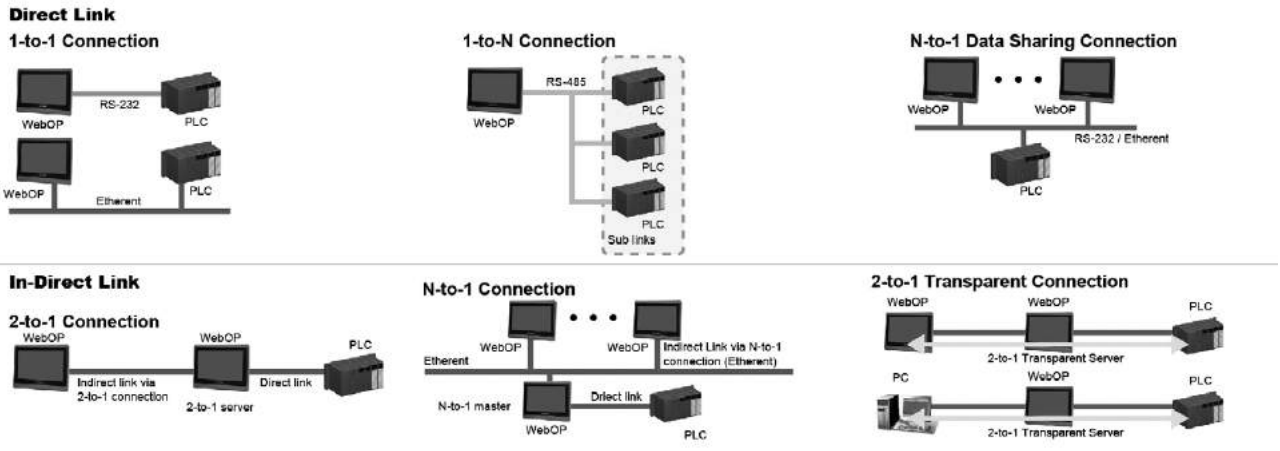
Accessories

- **CWOP-P2HFM-AD12E** PC to HMI program download cable, DB9/2m
- **CWOP-P2HAB-ADU2E** PC to HMI program download cable, USB/2m
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View



Communication Links



WebOP-2080T

8" SVGA Operator Panel with WebOP Designer Software



Features

- Various LCD sizes (4.3", 5.6", 7", 8", 10.1")
- Supports ARM9-based CPUs with 200MHz and 128MB flash memory
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/7/Vista-based WebOP Designer development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 400 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery
- Front panel is IP66 compliant

Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WebOP-2000T series with 200MHz ARM9-based RISC CPU's and 128MB flash memory for application software. The WebOP-2000T series also support a variety of LCD sizes from 4.3" to 10.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. The WebOP-2000T series is bundled with WebOP Designer: a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP Designer offers an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 231.5 x 174.6 x 37 mm (9.11" x 6.87" x 1.46")
- **Cut-out Dimensions** 221 x 164 mm (8.70" x 6.46")
- **Front Panel Thickness** 6 mm
- **Operating System** HMI RTOS, WebOP Designer
- **Power Supply Voltage** $24V_{DC}$ ±10%
- **Power Consumption** 10W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 0.93 kg (2.05 lbs)

System Hardware

- **CPU** RISC 32bits, 200MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 8MB/ 8MB + 128M NAND flash
- **Power-On LED** Yes
- **Communication LED** No
- **Front USB Access** No

Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-422/485 (5-Pin Plug Connector)
- **COM3** RS-232 (Com1: Pin5;7;8)
- **Ethernet (RJ45)** 10/100-BaseT (for N2AE model)
- **I/Os** USB Client Yes
  USB Host Yes
  Micro-SD Slot Yes (for N2AE model)

LCD Display and Touchscreen

- **Display Type** SVGA TFT LCD
- **Display Size** 8"
- **Max. Resolution** 800 x 600
- **Max. Colors** 65,536 colors
- **Luminance (cd/m²)** 250
- **Backlight Life** LED, 30,000 hrs
- **Dimming** Adjustable by touch panel
- **Touchscreen** 4 wire analog resistive

Environment

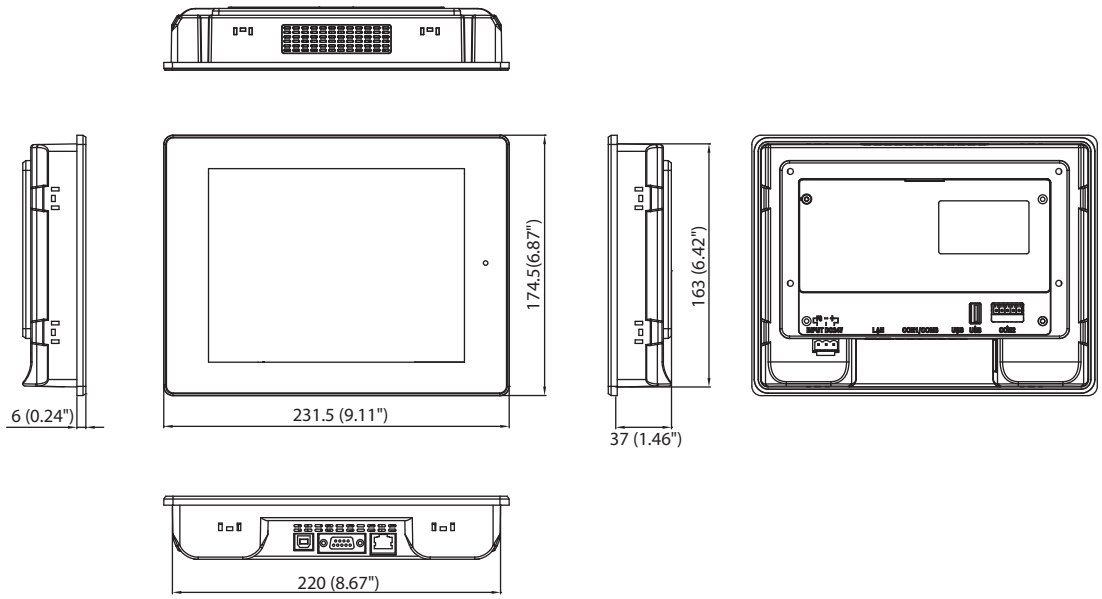
- **Operating Temperature** 0 ~ 50°C (32 ~ 122°F)
- **Storage Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Humidity** 10 ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel: IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-2080T-S2AE** 8" SVGA, 64MB (SDRAM), 8MB (NOR)
- **WOP-2080T-N2AE** 8" SVGA, 64MB (SDRAM), 8MB (NOR) & 128MB (NAND)

Dimensions

Unit: mm

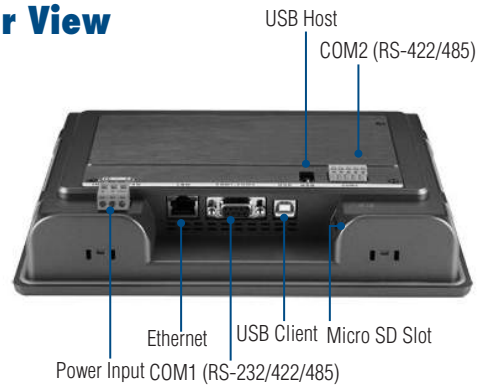


Panel Cut-out Dimensions: 221 x 164 mm (8.70" x 6.46")

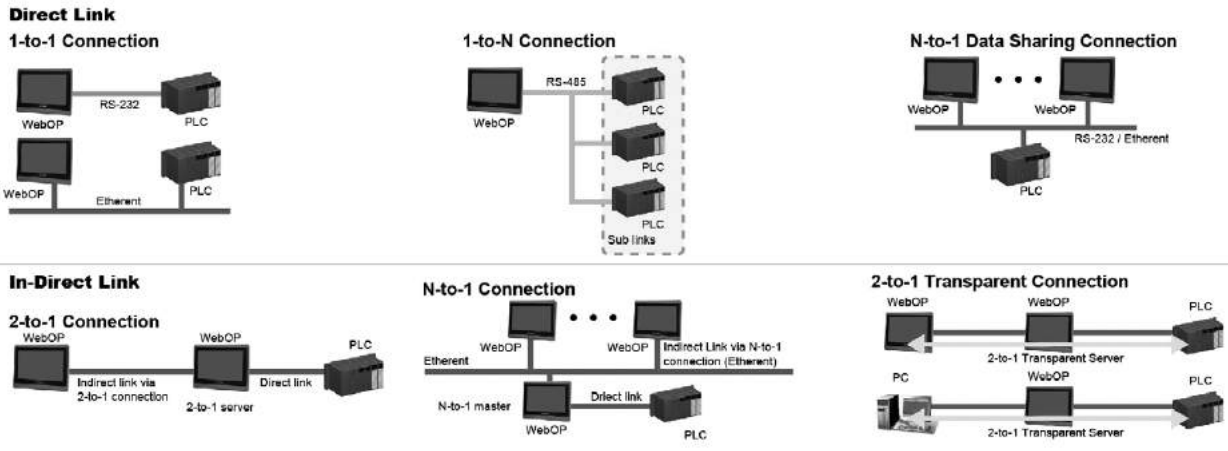
Accessories

- **CWOP-P2HFM-AD12E** PC to HMI program download cable, DB9/2m
- **CWOP-P2HAB-ADU2E** PC to HMI program download cable, USB/2m
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View



Communication Links



WebOP-2070T

7" WVGA Operator Panel with WebOP Designer Software



Features

- Various LCD sizes (4.3", 5.6", 7", 8", 10.1")
- Supports ARM9-based CPUs with 200MHz and 128MB flash memory
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/7/Vista-based WebOP Designer development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 400 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery
- Front panel is IP66 compliant

Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WebOP-2000T series with 200MHz ARM9-based RISC CPU's and 128MB flash memory for application software. The WebOP-2000T series also support a variety of LCD sizes from 4.3" to 10.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. The WebOP-2000T series is bundled with WebOP Designer: a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP Designer offers an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 188 x 143.3 x 30 mm (7.4" x 5.64" x 1.18")
- **Cut-out Dimensions** 175 x 132.5 mm (6.89" x 5.21")
- **Front Panel Thickness** 6mm
- **Operating System** HMI RTOS, WebOP Designer
- **Power Supply Voltage** $24V_{DC}$ ±10%
- **Power Consumption** 10W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 0.6 kg (1.32 lbs)

System Hardware

- **CPU** RISC 32 bits, 200 MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 8MB/ 8MB + 128M NAND flash
- **Power-On LED** Yes
- **Communication LED** No
- **Front USB Access** No

Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-422/485 (5-Pin Plug Connector)
- **COM3** RS-232 (Com1: Pin5;7;8)
- **Ethernet (RJ45)** 10/100-BaseT (for N2AE model)
- **I/Os** USB Client Yes
  USB Host Yes
  Micro-SD Slot Yes (for N2AE model)

LCD Display and Touchscreen

- **Display Type** WVGA TFT LCD
- **Display Size** 7"
- **Max. Resolution** 800 x 480
- **Max. Colors** 65,536 colors
- **Luminance (cd/m²)** 300
- **Backlight Life** LED, 20,000 hrs
- **Dimming** Adjustable by touch panel
- **Touchscreen** 4 wire analog resistive

Environment

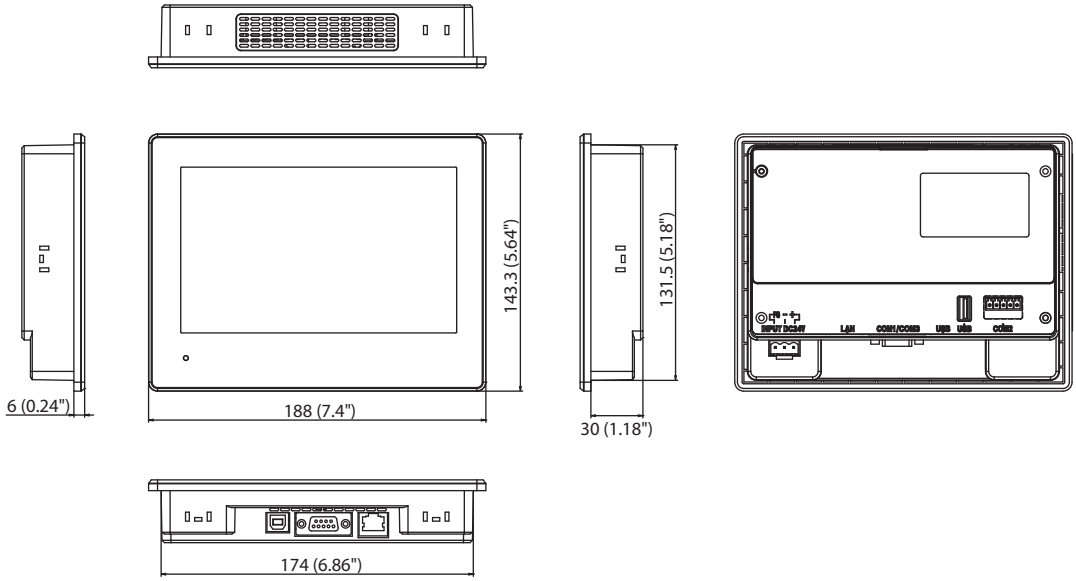
- **Operating Temperature** 0 ~ 50°C (32 ~ 122°F)
- **Storage Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Humidity** 10 ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel: IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-2070T-S2AE** 7" WVGA, 64MB (SDRAM), 8MB (NOR)
- **WOP-2070T-N2AE** 7" WVGA, 64MB (SDRAM), 8MB (NOR) & 128MB (NAND)

Dimensions

Unit: mm

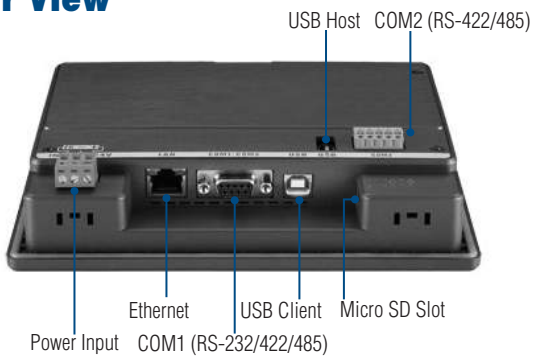


Panel Cut Out Dimensions: 175 x 132.5mm (6.89" x 5.21")

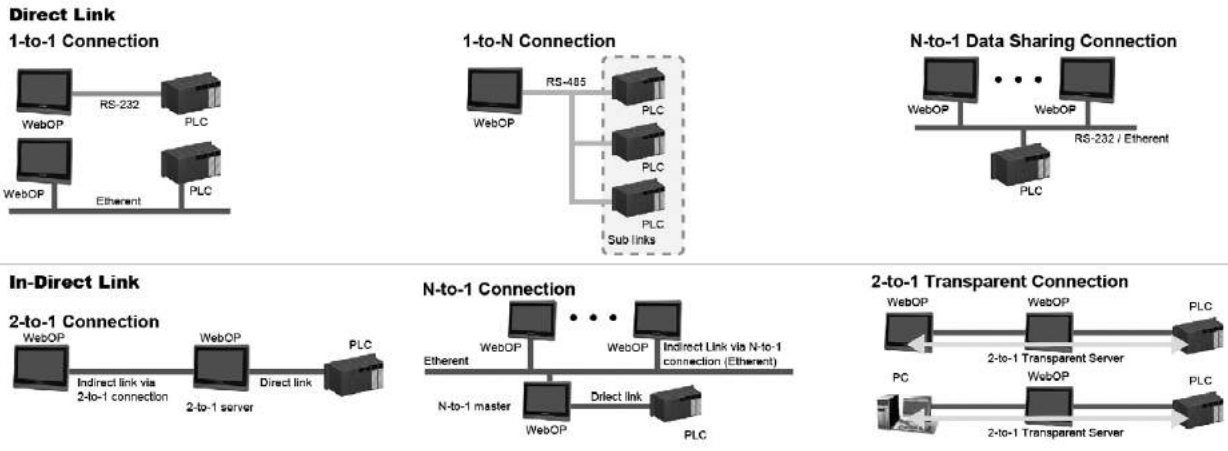
Accessories

- **CWOP-P2HFM-AD12E** PC to HMI program download cable, DB9/2m
- **CWOP-P2HAB-ADU2E** PC to HMI program download cable, USB/2m
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View



Communication Links



WebOP-2050T

5.6" QVGA Operator Panel with WebOP Designer Software



Features

- Various LCD sizes (4.3", 5.6", 7", 8", 10.1")
- Supports ARM9-based CPUs with 200MHz and 128MB flash memory
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/7/Vista-based WebOP Designer development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 400 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery
- Front panel is IP66 compliant

Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WebOP-2000T series with 200MHz ARM9-based RISC CPU's and 128MB flash memory for application software. The WebOP-2000T series also support a variety of LCD sizes from 4.3" to 10.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. The WebOP-2000T series is bundled with WebOP Designer: a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP Designer offers an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 188 x 143.3 x 30 mm (7.4" x 5.64" x 1.18")
- **Cut-out Dimensions** 175 x 132.5 mm (6.89" x 5.21")
- **Front Panel Thickness** 6mm
- **Operating System** HMI RTOS, WebOP Designer
- **Power Supply Voltage** $24V_{DC}$ ±10%
- **Power Consumption** 10W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 0.51 kg (1.12 lbs)

System Hardware

- **CPU** RISC 32bits, 200MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 8MB + 128M NAND flash
- **Power-On LED** Yes
- **Communication LED** No
- **Front USB Access** No

Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-422/485 (5-Pin Plug Connector)
- **COM3** RS-232 (Com1: Pin5;7;8)
- **Ethernet (RJ45)** None
- **I/Os** USB Client Yes
  USB Host Yes
  Micro-SD Slot Yes

LCD Display and Touchscreen

- **Display Type** QVGA TFT LCD
- **Display Size** 5.6"
- **Max. Resolution** 320 x 234
- **Max. Colors** 65,536 colors
- **Luminance (cd/m²)** 330
- **Backlight Life** LED, 20,000 hrs
- **Dimming** Adjustable by touch panel
- **Touchscreen** 4 wire analog resistive

Environment

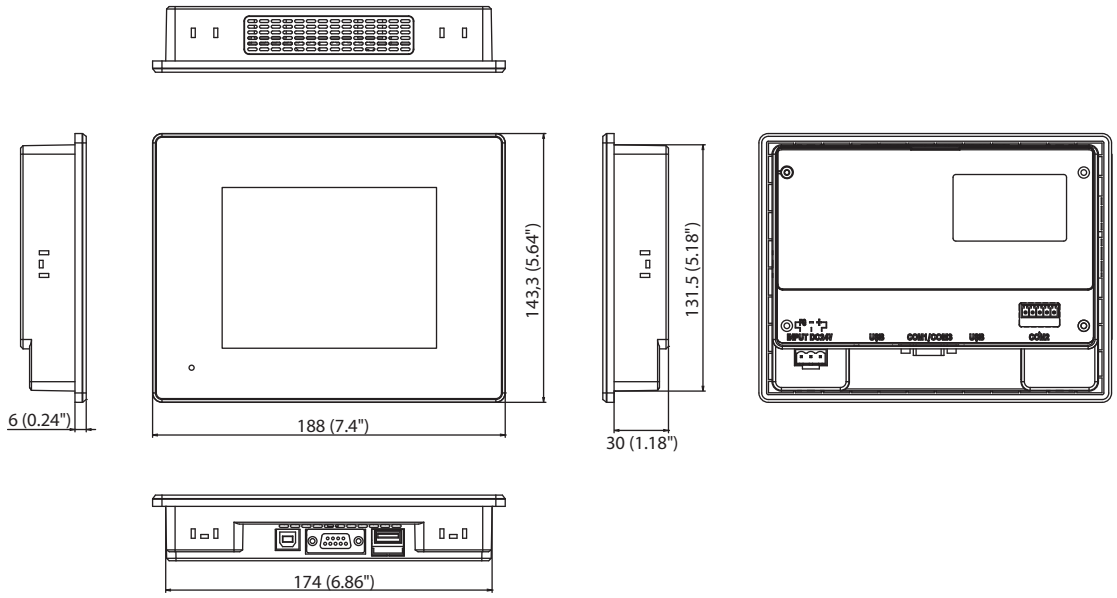
- **Operating Temperature** 0 ~ 50°C (32 ~ 122°F)
- **Storage Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Humidity** 10 ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel:IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-2050T-S1AE** 5.6" QVGA, 32 MB (SDRAM), 8MB (NOR) & 128MB (NAND)

Dimensions

Unit: mm

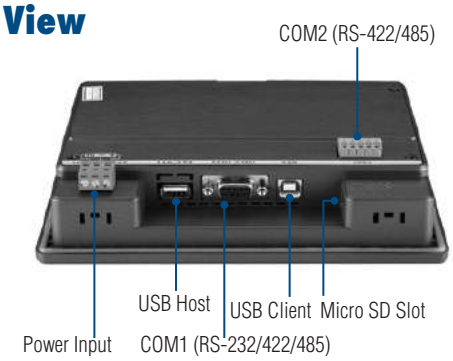


Panel Cut-out Dimensions: 175 x 132.5mm (6.89" x 5.21")

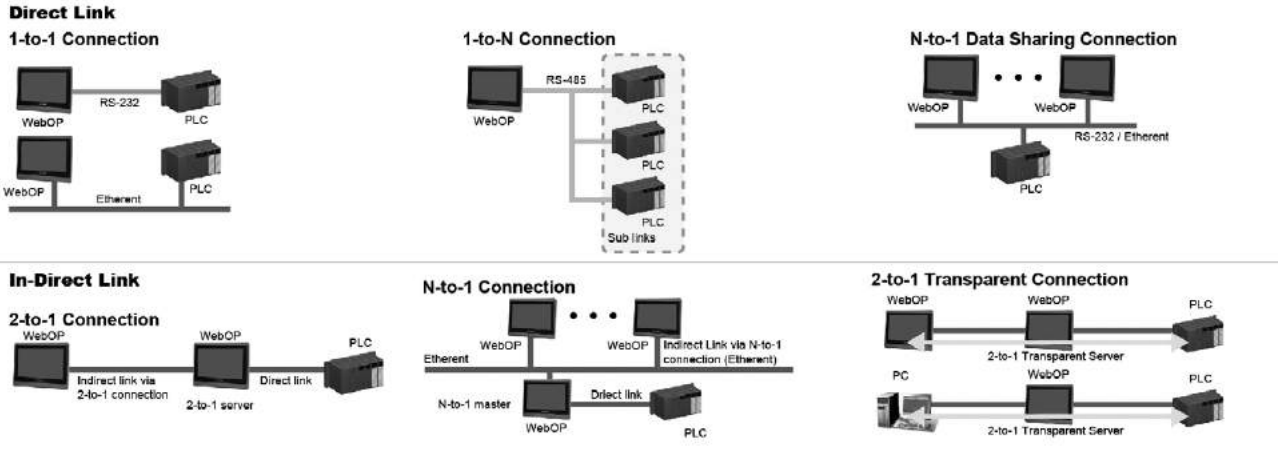
Accessories

- **CWOP-P2HFM-AD12E** PC to HMI program download cable, DB9/2m
- **CWOP-P2HAB-ADU2E** PC to HMI program download cable, USB/2m
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View



Communication Links



WebOP-2040T

4.3" WQVGA Operator Panel with WebOP Designer Software



Features

- Various LCD sizes (4.3", 5.6", 7", 8", 10.1")
- Supports ARM9-based CPUs with 200MHz and 128MB flash memory
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/7/Vista-based WebOP Designer development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 400 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery
- Front panel is IP66 compliant

Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WebOP-2000T series with 200MHz ARM9-based RISC CPU's and 128MB flash memory for application software. The WebOP-2000T series also support a variety of LCD sizes from 4.3" to 10.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. The WebOP-2000T series is bundled with WebOP Designer: a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP Designer offers an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

Specifications

General

- **Certification** CE, BSMI, CCC, UL, FCC Class A
- **Dimensions (WxHxD)** 130 x 106.2 x 36.4mm (5.11" x 4.18" x 1.43")
- **Cut-out Dimensions** 118.5 x 92.5mm (4.66" x 3.64")
- **Front Panel Thickness** 5mm
- **Operating System** HMI RTOS, WebOP Designer
- **Power Supply Voltage** $24V_{DC}$ ±10%
- **Power Consumption** 5W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 0.3 kg (0.66 lbs)

System Hardware

- **CPU** RISC 32bits, 200MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 8MB/ 8MB + 128M NAND flash
- **Power-On LED** Yes
- **Communication LED** No
- **Front USB Access** No

Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-422/485 (5-Pin Plug Connector)
- **COM3** RS-232 (Com1: Pin5;7;8)
- **Ethernet (RJ45)** 10/100-BaseT (for N1AE model)
- **I/Os** USB Client Yes; USB Host Yes; Micro-SD Slot Yes (for N1AE model)

LCD Display and Touchscreen

- **Display Type** WQVGA TFT LCD
- **Display Size** 4.3"
- **Max. Resolution** 480 x 272
- **Max. Colors** 65,536 colors
- **Luminance (cd/m²)** 400
- **Backlight Life** LED, 20,000 hrs
- **Dimming** Adjustable by touch panel
- **Touchscreen** 4 wire analog resistive

Environment

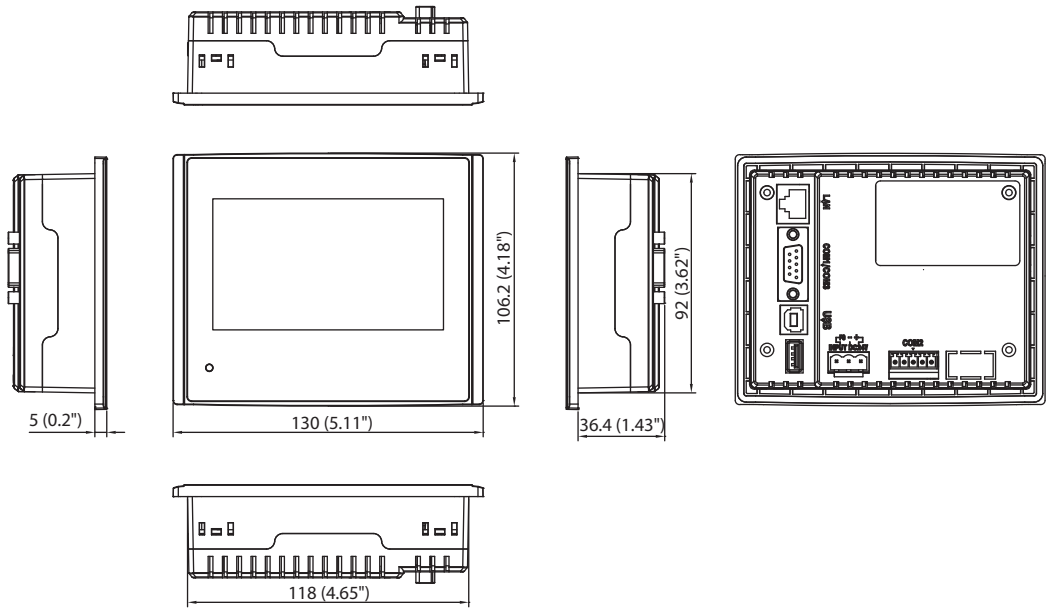
- **Operating Temperature** 0 ~ 50°C (32 ~ 122°F)
- **Storage Temperature** -20 ~ 60°C (-4 ~ 140°F)
- **Humidity** 10 ~ 90% RH @ 40°C, non-condensing
- **Ingress Protection** Front panel: IP66
- **Vibration Protection** Operating, radom vibration 1 Grms (5 ~ 500 Hz)

Ordering Information

- **WOP-2040T-S1AE** 4.3" WQVGA, 32MB (SDRAM), 8MB (NOR)
- **WOP-2040T-N1AE** 4.3" WQVGA, 32MB (SDRAM), 8MB (NOR) & 128MB (NAND)

Dimensions

Unit: mm

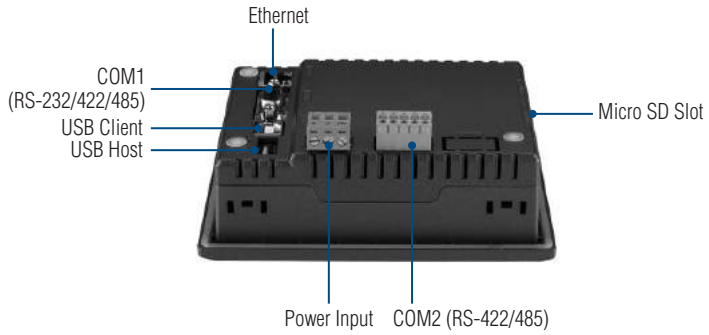


Panel Cut-out Dimensions: 118.5 x 92.5 mm (4.66" x 3.64")

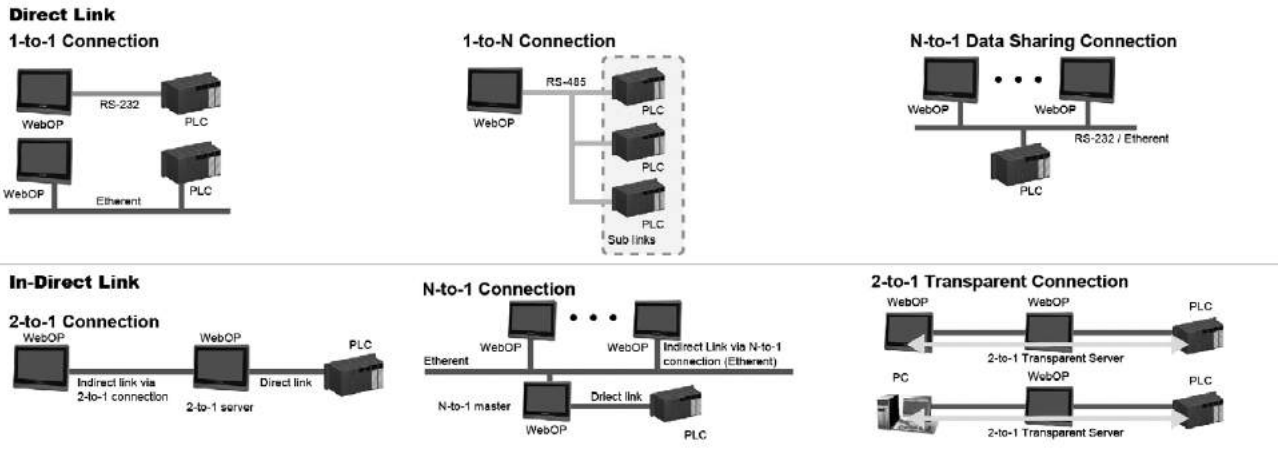
Accessories

- **CWOP-P2HFM-AD12E** PC to HMI program download cable, DB9/2m
- **CWOP-P2HAB-ADU2E** PC to HMI program download cable, USB/2m
- **PWR-247-BE** 63W DC 24V/2.62A Output Power Supply
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M

Rear View



Communication Links



Supported PLC and Controllers list

Communication Port

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
A&D Company Ltd.	AD-4401 Weighing Indicator	V	V	V	Direct Link (COM)
ABIDO Automation Co., Ltd.	ACR420 984 Device/Slave (RTU)	V	V	V	Direct Link (COM)
ADLEE POWERTRONIC CO., LTD.	MS/AP/AS Series Inverter (RTU)	V	V	V	Direct Link (COM)
	BL/D305 Series (RTU)	V	V	V	Direct Link (COM)
Advantech	Null PLC	V	V	V	Direct Link (COM)
	ADAM (Modbus RTU)	V	V	V	Direct Link (COM)
	ADAM-4000 (ASCII)	V	V	V	Direct Link (COM)
	ADAM-6000 (ModBus TCP/IP)	V	V	V	Direct Link (Ethernet)
AIGO Technologies Corporation	SE500 Series (Modbus RTU)	V	V	V	Direct Link (COM)
Allen Bradley	Micrologix 1000/1500	V	V	V	Direct Link (COM)
	SLC 5/03, 5/04	V	V	V	Direct Link (COM)
	DH-485 (COM)	V	V	N/A	Direct Link (COM)
	PLC-5	V	V	V	Direct Link (COM)
	SLC 5/03, 5/04 (CRC)	V	V	V	Direct Link (COM)
	CompactLogix/ControlLogix Tag	V	V	N/A	Direct Link (COM)
	MicroLogix 1000/1500 via 1761-NET-ENI	V	V	V	Direct Link (Ethernet)
	MicroLogix	V	V	V	Direct Link (Ethernet)
	CompactLogix/ControlLogix Ethernet/IP Tag	V	V	V	Direct Link (Ethernet)
ARICO Technology	FC Type(Modbus)	V	V	V	Direct Link (COM)
Astraada HMI	ModBus Master (TCP/IP)	V	V	V	Direct Link (Ethernet)
	ModBus Device/Slave (TCP/IP)	V	V	V	Direct Link (Ethernet)
	Modbus Master (RTU)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU)	V	V	V	Direct Link (COM)
	Modicon Device/Slave (RTU, Quantum)	V	V	V	Direct Link (COM)
	ModBus Master (TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
	ModBus Device/Slave (TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
	Modbus Master (RTU; Non-volatile slave data)	V	V	V	Direct Link (COM)
Automation Technology Co., Ltd.	BLDC NLV/KLV Series	V	V	V	Direct Link (COM)
Banner Engineering Int'l Inc.	BSP01 Series	V	V	V	Direct Link (COM)
Beckhoff Automation GmbH	TwinCAT 2 (via Ethernet)	V	V	V	Direct Link (Ethernet)
	TwinCAT 2 (via DLL)	V	N/A	N/A	Direct Link (Ethernet)
Bosch Rexroth	ModBus Device/Slave (TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
CAPAC	TC	V	V	V	Direct Link (COM)
CHINO Corporation	DB1000 Digital Indicating Controller (ASCII)	V	V	V	Direct Link (COM)
CMZ Sistemi Elettronici	NF0 Controllers	V	V	V	Direct Link (COM)
	FCT Controllers	V	V	V	Direct Link (COM)
	SD Drivers	V	V	V	Direct Link (COM)
	SDS Drivers	V	V	V	Direct Link (COM)
	MDM Drivers	V	V	V	Direct Link (COM)
	FCT Controllers(TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
Crouzet Ltd.	M3 SLIN/SLOUT Protocol	V	V	V	Direct Link (COM)
CTB Technologies Corporation	IMS Servo Controller	V	N/A	N/A	Direct Link (COM)
Danfoss Group	VLT 2800 Series (FC Protocol)	V	V	V	Direct Link (COM)
DEIF A/S	Modbus RTU (COM port)	V	V	V	Direct Link (COM)
	TCP/IP Modbus (Ethernet port)	V	V	V	Direct Link (Ethernet)
	WSS/WSS-L	V	V	V	Direct Link (COM)
Delta Corporation	DVP-ES/SS/EP/EH	V	V	V	Direct Link (COM)
	DVP-ES/SS/EP/EH (No block read)	V	V	V	Direct Link (COM)
	DVP-SV(RTU)	V	V	V	Direct Link (COM)
	VFD-M Inverter (ASCII)	V	V	V	Direct Link (COM)
	VFD-B Inverter (ASCII)	V	V	V	Direct Link (COM)
	DTC1000/2000 Temperature (ASCII)	V	V	V	Direct Link (COM)
	DTA Temperature (ASCII)	V	V	V	Direct Link (COM)
	ASDA-A Servo Controller (ASCII)	V	V	V	Direct Link (COM)
	ASDA-B Servo Controller (ASCII)	V	V	V	Direct Link (COM)
	ASDA-A2 Servo Controller (ASCII)	V	V	V	Direct Link (COM)
Dirise Electric Technology Co.,Ltd.	DRS2000 Series Inverter	V	N/A	N/A	Direct Link (COM)
	DRS2800 M Series Inverter	V	V	V	Direct Link (COM)
EasyIO	EasyIO-30 (RTU)	V	V	V	Direct Link (Ethernet)
Emerson Network Power	EC Series (RTU)	V	V	V	Direct Link (COM)
	EV1000 Series Variable Speed Driver	V	V	V	Direct Link (COM)
Epson Corporate	Epson LQ Matrix Printer	V	V	V	Direct Link (COM)
Eura Drivers Electric Corp.	Eura EF1S/1N	V	V	V	Direct Link (COM)
	Eura EF2N	V	V	V	Direct Link (COM)
	Eura Inverter (Modbus RTU)	V	V	V	Direct Link (COM)
	Eura Inverter (Modbus ASCII)	V	V	V	Direct Link (COM)
	Eura EF200-CPU202(Modbus RTU)	V	V	V	Direct Link (COM)
	Eura EF200-CPU202XP/ CPU204(Modbus RTU)	V	V	V	Direct Link (COM)
	Eura EF200-CPU204XP/ CPU206(Modbus RTU)	V	V	V	Direct Link (COM)
	Eura EF300-CPU304(Modbus RTU)	V	V	V	Direct Link (COM)
	Eura EF300-CPU306(Modbus RTU)	V	V	V	Direct Link (COM)

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
Eura Drivers Electric Corp.	Eura Servo Drive (Modbus RTU)	V	V	V	Direct Link (COM)
	Eura Servo Drive (Modbus ASCII)	V	V	V	Direct Link (COM)
	Eura HFR1000 (Modbus RTU)	V	V	V	Direct Link (COM)
	Eura HFR1000 (Modbus ASCII)	V	V	V	Direct Link (COM)
	Eura HFR2000 (Modbus RTU)	V	V	V	Direct Link (COM)
	Eura HFR2000 (Modbus ASCII)	V	V	V	Direct Link (COM)
Fatek Automation Corp.	FATEK FBs/FBe	V	V	V	Direct Link (COM)
	Fatek FBs/FBe (TCP)	V	V	V	Direct Link (Ethernet)
Festo Corporation	FPC/FEC Series	V	V	V	Direct Link (COM)
	FPC/FEC EasyIP	V	V	V	Direct Link (Ethernet)
Fuji Electric Corporation	NB Series	V	V	V	Direct Link (COM)
	PXR Series Temperature (RTU)	V	V	V	Direct Link (COM)
	FRENIC-VP (RTU)	V	V	V	Direct Link (COM)
	FRENIC5000G11/P11 (Fuji)	V	V	V	Direct Link (COM)
	FRENIC-Mini/Eco/Multi/Mega(RTU)	V	V	V	Direct Link (COM)
	MICREX-SX	V	V	V	Direct Link (Ethernet)
FVK Automation Co., Ltd.	F Series Inverter	V	V	V	Direct Link (COM)
GE Corporation	90 Series SNP	V	V	V	Direct Link (COM)
	VersaMax Series (SNP)	V	V	V	Direct Link (COM)
	90 and RX3i Series (SNP)	V	V	V	Direct Link (COM)
	90 Series CCM	V	V	V	Direct Link (COM)
	SRTP Ethernet	V	V	V	Direct Link (Ethernet)
	SRTP Ethernet (Micro)	V	V	V	Direct Link (Ethernet)
Gigarise Technology Co., Ltd.	SE5000	V	V	V	Direct Link (COM)
	GA400 Temperature (RTU)	V	V	V	Direct Link (COM)
GOFAST Corporation	NC Series	V	V	V	Direct Link (COM)
Haiwell Technology Co., Ltd	HW Series (RTU)	V	V	V	Direct Link (COM)
Hanbell Precise Machinery Co., Ltd.	Air Screw Compressor	V	V	V	Direct Link (COM)
Hitachi Industrial Equipment Systems Co., Ltd	SJ200 Inverter	V	V	V	Direct Link (COM)
	EH/EHV Series (Ethernet; TCP)	V	V	N/A	Direct Link (Ethernet)
	EH/EHV Series (Ethernet; UDP)	V	V	N/A	Direct Link (Ethernet)
	H/EH Series	V	V	V	Direct Link (COM)
	EHV Series (Procedure 1)	V	V	V	Direct Link (COM)
	H-252C	V	V	V	Direct Link (COM)
	AD Series Servo Drives	V	V	V	Direct Link (COM)
Hitech	Computer as Slave (COM)	V	V	V	Direct Link (COM)
	Computer as Master (COM)	V	V	V	Direct Link (COM)
	Computer as Slave V2 (COM)	V	N/A	N/A	Direct Link (COM)
	Computer as Master V2 (COM)	V	V	V	Direct Link (COM)
HOLIP ELECTRONIC TECHNOLOGY CO., LTD	HLP-C+/CP	V	V	V	Direct Link (COM)
HollySys	LE5108 (Modbus RTU)	V	V	N/A	Direct Link (COM)
Honeywell	BACnet/IP	V	N/A	N/A	Direct Link (Ethernet)
	BACnet/MSTP	V	N/A	N/A	Direct Link (COM)
	BACnet	V	N/A	N/A	Direct Link (COM)
	HW BACnet/IP	V	N/A	N/A	Direct Link (Ethernet)
	Modbus Device/Slave (RTU, 255)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU, 255, NoBlock)	V	V	V	Direct Link (COM)
Hunjoen Electronic Co., Ltd.	H_Tech PID CONTROLLER	V	V	V	Direct Link (COM)
HUST Automation Inc.	CNC Controller	V	V	V	Direct Link (COM)
	New CNC Controller	V	V	V	Direct Link (COM)
Idec Corporation	FC Series	V	V	V	Direct Link (COM)
IECCO	Sinus Penta Inverter (RTU)	V	V	V	Direct Link (COM)
Inovance Control Technology Co., Ltd.	H2u (CPU Port)	V	V	V	Direct Link (COM)
	MD Series Inverter (RTU)	V	V	V	Direct Link (COM)
	MD Series Inverter (RTU-1)	V	V	V	Direct Link (COM)
	IS Servo (RTU)	V	V	V	Direct Link (COM)
Integrated Flow Systems	iPurge Source Controller	V	V	V	Direct Link (COM)
Invt Auto-Control Technology	IVC Series	V	V	V	Direct Link (COM)
JETTER	NANO Series	V	V	V	Direct Link (COM)
	JetControl 24x Series	V	V	V	Direct Link (COM)
	JetControl 24x Series (Ethernet)	V	V	N/A	Direct Link (Ethernet)
Joint Peer Systec Corp.	IRIS Series	V	V	V	Direct Link (COM)
	JUPITER Series	V	V	V	Direct Link (COM)
	PDAN Series	V	V	V	Direct Link (COM)
	PDS Series	V	V	V	Direct Link (COM)
Keyence Corp.	KV Series	V	V	V	Direct Link (COM)
	KV-1000	V	V	V	Direct Link (COM)
	KV-L20V,KV-NANO	V	V	V	Direct Link (COM)
	KV-L20	V	V	V	Direct Link (COM)
	KV-3000	V	V	V	Direct Link (COM)
	KV-5000	V	V	V	Direct Link (Ethernet)
Kinco Automation Ltd.	Kinco ED Series	V	V	V	Direct Link (COM)
Klockner Moeller Corporation	PS4-201-MM1	V	V	V	Direct Link (COM)
	SUCONET K	V	N/A	N/A	Direct Link (COM)

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
Koyo Electric Corp.	K Sequence Series	V	V	V	Direct Link (COM)
	Direct Logic Series	V	V	V	Direct Link (COM)
	Direct 06 Series (K Sequence)	V	V	V	Direct Link (COM)
	Direct 06 Series (DirectNET)	V	V	V	Direct Link (COM)
Lenze Drive Systems GmbH	93xx Servo Controllers (LECOM A/B)	V	V	V	Direct Link (COM)
	E94AYCEN GCI(TCP/IP) Protocol	V	V	V	Direct Link (Ethernet)
LG Industrial Systems	Master-K Series CNet	V	V	V	Direct Link (COM)
	K120S CPU Port	V	V	V	Direct Link (COM)
	Master-K Loader	V	V	V	Direct Link (COM)
	GLOFA GM Series CNet	V	V	V	Direct Link (COM)
	XBM-DR16S	V	V	V	Direct Link (COM)
	GLOFA GM Loader	V	V	V	Direct Link (COM)
	XEC/XGI CNet	V	V	V	Direct Link (COM)
	XGT/XGK (CPU)	V	V	V	Direct Link (COM)
	XGL-C22A	V	V	V	Direct Link (COM)
	XGT/XGK (CPU)	V	V	V	Direct Link (Ethernet)
LG System	LGA Series(as Slave)	V	V	V	Direct Link (COM)
	LGA Series (as Master)	V	V	V	Direct Link (COM)
Liyan Electric Industrial Ltd.	EX Series (CPU Port)	V	V	V	Direct Link (COM)
Lust Antriebstechnik GmbH	LustBus ServoC/CDE Series	V	V	N/A	Direct Link (COM)
	LustBus CDD Series	V	V	N/A	Direct Link (COM)
Maxtech	MC2 PID Controller	V	V	V	Direct Link (COM)
Maxthermo	MC 5738 (RTU)	V	V	V	Direct Link (COM)
Mean Well Enterprises Co., Ltd.	PRETA	V	V	V	Direct Link (COM)
Megmeet	MC Series (RTU)	V	V	V	Direct Link (COM)
Micro Trend Corporation	UTC Servo Controller	V	V	V	Direct Link (COM)
MIKOM ELECTRICAL TECHNOLOGY	MX Series PLC	V	V	V	Direct Link (COM)
Mirle Automation Corporation	Fama SoftPLC Ethernet	V	V	V	Direct Link (Ethernet)
	ModBus Device/Slave (TCP/IP)	V	V	V	Direct Link (Ethernet)
	nDX Controller	V	V	V	Direct Link (COM)
Mitsubishi Electric Corp.	Melsec-FX (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q/QnA (Link Port)	V	V	V	Direct Link (COM)
	Melsec-Q00/01 (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q02H (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q02 (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q02U (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q00J (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-FX2n (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-FX3U (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-FX3U (Link Port)	V	V	V	Direct Link (COM)
	Melsec-AnN/AnS (Link Port)	V	V	V	Direct Link (COM)
	Melsec-AnN/AnS Protocol 4	V	V	V	Direct Link (COM)
	FX2n-10GM/20GM	V	V	V	Direct Link (COM)
	Melsec-A1S/A2S (CPU Port)	V	V	V	Direct Link (COM)
	FR-E500 Series (485)	V	V	V	Direct Link (COM)
	Melsec-A3N/A1SH (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-AnA/AnU (Link Port)	V	V	V	Direct Link (COM)
	Melsec-AnA/AnU Protocol 4	V	V	V	Direct Link (COM)
	Servo Amplifier MR-J2S-A	V	V	V	Direct Link (COM)
	Servo Amplifier MR-J3-A	V	V	V	Direct Link (COM)
	Servo Amplifier MR-J4-A	V	V	V	Direct Link (COM)
	Melsec-A2A/A2AS (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q06H (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q12H (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q03U (CPU Port)	V	V	V	Direct Link (COM)
	Melsec-Q00U (CPU Port)	V	V	V	Direct Link (COM)
	GOT-F900 Emulator (1:1 Format 1 & 2)	V	V	N/A	Direct Link (COM)
	Melsec-Q01U (CPU Port)	V	V	V	Direct Link (COM)
	Q Ethernet	V	V	V	Direct Link (Ethernet)
	Q/L Ethernet (ASCII Mode)	V	V	V	Direct Link (Ethernet)
	L Ethernet (Binary Mode)	V	V	V	Direct Link (Ethernet)
	Melsec-FX3U (MC-Protocol)	V	V	V	Direct Link (Ethernet)
Mitutoyo Corporation	EV Linear Gage Counter (ASCII)	V	V	V	Direct Link (COM)
Schneider Electric-Modicon Corp.	TSX Premium (Uni-Telway)	V	V	V	Direct Link (COM)
	TSX Quantum (Uni-Telway)	V	N/A	N/A	Direct Link (COM)
	Twido (Modbus RTU)	V	V	V	Direct Link (COM)
	ModBus Master (TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
	ModBus Device/Slave (TCP/IP; Type 2)	V	V	V	Direct Link (Ethernet)
	Modbus Master (RTU; Non-volatile slave data)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU; 6-digit Addresses)	V	V	N/A	Direct Link (COM)
	Modbus Master (ASCII; Non-volatile slave data)	V	V	V	Direct Link (COM)
MOTEC	α Series	V	V	V	Direct Link (COM)
MTC	MTC96 Controller (Modbus ASCII)	V	V	V	Direct Link (COM)
Muscle Corporation Inc.	Cool Muscle CM1-17L30	V	V	V	Direct Link (COM)

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
MyTech	VL-CX: Melsec-FX2n (CPU Port)	V	V	V	Direct Link (COM)
Newtop Co., Ltd.	PSTC (Temperature Controller)	V	V	V	Direct Link (COM)
	PSBD (Bushless Driver)	V	V	V	Direct Link (COM)
	PSSD (Stepping Driver)	V	V	V	Direct Link (COM)
	PSMC (Motion Controller)	V	V	V	Direct Link (COM)
	PSNC (Embedded NC)	V	V	V	Direct Link (COM)
Omron Corporation	Sysmac C Series Host Link	V	V	V	Direct Link (COM)
	Sysmac CV Series Host Link	V	V	V	Direct Link (COM)
	Sysmac CS/CJ Series Host Link	V	V	V	Direct Link (COM)
	Sysmac CS/CJ Series (FINS)	V	V	V	Direct Link (COM)
	Sysmac CP Series (FINS)	V	V	V	Direct Link (COM)
	E5CN Temperature (CompoWay/F)	V	V	V	Direct Link (COM)
	E5CN Temperature (Modbus RTU)	V	V	V	Direct Link (COM)
	EJ1 Temperature (CompoWay/F)	V	V	V	Direct Link (COM)
	KM100 (CompoWay/F)	V	V	V	Direct Link (COM)
	3G3MV Inverter (RTU)	V	V	V	Direct Link (COM)
	Sysmac CS/CJ Series FINS/TCP	V	V	V	Direct Link (Ethernet)
	Sysmac NJ Series FINS/TCP	V	V	V	Direct Link (Ethernet)
Pan-Globe Corp.	E9 Temperature Series	V	V	V	Direct Link (COM)
	E904 Temperature (RTU)	V	V	V	Direct Link (COM)
	HT Series Temperature Controller	V	V	V	Direct Link (COM)
Matsushita Electric Works (Panasonic Corporation)	FP Series Computer Link	V	V	V	Direct Link (COM)
	FP-X Series	V	V	V	Direct Link (COM)
	VF0C Series Inverter	V	V	V	Direct Link (COM)
	VF100 Series Inverter	V	V	V	Direct Link (COM)
Panasonic Corporation	FP Series	V	V	V	Direct Link (COM)
	FP Series Computer Link	V	V	V	Direct Link (Ethernet)
	MINAS A4 Series	V	V	V	Direct Link (COM)
PanelMaster	Null PLC	V	V	V	Direct Link (COM)
	N-to-1 Master (COM)	V	V	V	Communication Service (COM)
	Multi-drop Client (COM)	V	V	V	Indirect Link via N-to-1 Connection (COM)
	N-to-1 Master (Ethernet)	V	V	V	Communication Service (Ethernet)
	N-to-1 Slave (Ethernet)	V	V	V	Indirect Link via N-to-1 Connection (Ethernet)
	General Device (COM)	V	V	V	Direct Link (COM)
	2-to-1 Server (COM)	V	V	V	Communication Service (COM)
	2-to-1 Transparent Server (COM)	V	N/A	N/A	Communication Service (COM)
	2-to-1 Transparent Server for Modbus Device/Slave (RTU)	N/A	V	V	Communication Service (COM)
	2-to-1 Transparent Server for Omron Sysmac C Series Host Link	N/A	V	V	Communication Service (COM)
	2-to-1 Transparent Server for Modbus Device/Slave (RTU; 6-digit Addresses)	N/A	V	N/A	Communication Service (COM)
	2-to-1 Client (COM)	V	V	V	Indirect Link via 2-to-1 Connection (COM)
	TCP/IP Gateway Server	V	V	V	Gateway Service (Ethernet)
	Serial Gateway Server	V	V	V	Gateway Service (COM)
	Data Sharer (UDP)	V	V	V	Direct Link (Ethernet)
	General Device (TCP/IP Slave)	V	V	V	Direct Link (Ethernet)
	Data Sharer (RS485)	V	N/A	V	Direct Link (COM)
	Ping	V	N/A	N/A	Direct Link (Ethernet)
	Modbus Master (RTU)	V	V	V	Direct Link (COM)
	Modbus Master (RTU; Little Memory)	V	V	V	Direct Link (COM)
	Modbus Master (RTU; Non-volatile slave data)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU, 16Words)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (Word order in big-endian)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU; No block read)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (RTU, 30Words)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (ASCII)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (ASCII; No block read)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (TCP/IP)	V	V	V	Direct Link (Ethernet)
	Internal Memory Server	V	V	V	Gateway Service (Ethernet)
	Internal Memory	V	V	V	Direct Link (Ethernet)
	Barcode Scanner	V	V	V	Direct Link (COM)
	Epson Matrix Printer	V	V	V	Direct Link (COM)
	PC Series PLC Module	V	V	V	Direct Link (COM)
	OPC UA Client Driver	V	V	N/A	OPC Link
Parker Hannifin	Compax3	V	V	V	Direct Link (COM)

Supported PLC and Controllers list

Communication Port

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
Parker Hannifin S.p.A.	HID Series (X4 RS232 Port)	V	V	V	Direct Link (COM)
	SLVDN Series (X1 RS422/485 Port)	V	V	V	Direct Link (COM)
	6K Ethernet Protocol	V	N/A	N/A	Direct Link (Ethernet)
PORIS	XC ModBus TCP	V	V	V	Direct Link (Ethernet)
	XC Modbus RTU	V	V	V	Direct Link (COM)
Resson Technologies Co., Ltd.	RD-15S	V	V	V	Direct Link (COM)
RICH Electric Co., LTD.	EI-500 Series (RTU)	V	V	N/A	Direct Link (COM)
	EI-9001 Series (RTU)	V	V	N/A	Direct Link (COM)
RKC Instrument Inc.	MA900/CB900 Series (RTU)	V	V	V	Direct Link (COM)
	CD/CH Series (ASCII)	V	V	V	Direct Link (COM)
Saia Burgess	PCD Series (S-Bus PGU)	V	V	V	Direct Link (COM)
	PCD Series (S-Bus, Data Mode)	V	V	V	Direct Link (COM)
	PCD Series (Ether-S-Bus)	V	V	V	Direct Link (Ethernet)
Samwon Technology	NOVA Series (RTU)	V	V	V	Direct Link (COM)
	NOVA Series	V	V	V	Direct Link (COM)
Modicon Corp. (Schneider Electric)	ModBus Master (TCP/IP)	V	V	V	Direct Link (Ethernet)
	ModBus Device/Slave (TCP/IP)	V	V	V	Direct Link (Ethernet)
	Modicon 984 Master (RTU)	V	V	V	Direct Link (COM)
	Modicon 984 Master (RTU; Little Memory)	V	V	V	Direct Link (COM)
	Modicon 984 Device/Slave (RTU)	V	V	V	Direct Link (COM)
	Modbus Master (ASCII)	V	V	V	Direct Link (COM)
	Modbus Master (ASCII; Little Memory)	V	V	V	Direct Link (COM)
	Modbus Device/Slave (ASCII)	V	V	V	Direct Link (COM)
	Modicon Device/Slave (RTU, Quantum)	V	V	V	Direct Link (COM)
Schneider Electric Sharp Corporation	ATV31 Inverter (RTU)	V	V	V	Direct Link (COM)
	Lexium 23 Servo Controller (ASCII)	V	V	V	Direct Link (COM)
	JW10/20 Series	V	V	V	Direct Link (COM)
Shenzhen Sine Electric Co., Ltd	EM303A	V	V	V	Direct Link (COM)
Shenzhen Step Servo Ltd.	Kinco Servo Controller	V	V	V	Direct Link (COM)
Shenzhen V&T Technologies Co.,Ltd	V5-H	V	V	V	Direct Link (COM)
Shenzhen Xilin Electric Tech. Co., Ltd.	Inverter EH series (RTU)	V	V	V	Direct Link (COM)
Shihlin Electric&Engineering Corp.	SH Inverter	V	V	V	Direct Link (COM)
SHIMAX CO., LTD.	MAC3 Series (RTU)	V	V	V	Direct Link (COM)
Shinko Technos Co., Ltd.	CPT-20A MODBUS DEVICE/SLAVE (ASCII)	V	V	V	Direct Link (COM)
	JCS-33A-R/M (Shinko Protocol)	V	V	V	Direct Link (COM)
	JCS-33A-R/M (Modbus ASCII)	V	V	V	Direct Link (COM)
Siemens AG	Simatic S7-200 (PPI; 1-to-1)	V	N/A	N/A	Direct Link (COM)
	Simatic S7-200 SMART (PPI; 1-to-1)	V	N/A	N/A	Direct Link (COM)
	Simatic S7-200 (PPI; Network)	V	N/A	N/A	Direct Link (COM)
	Simatic S7-300 (MPI Port)	V	N/A	N/A	Direct Link (COM)
	Simatic S5 3964R	V	N/A	N/A	Direct Link (COM)
	Simatic S5	V	N/A	N/A	Direct Link (COM)
	Simatic S7-300 Ethernet Module (CP343)	V	V	V	Direct Link (Ethernet)
	"SIMATIC S7 (Ethernet) (CPU on board ethernet ET200S/ S7-300/S7-1200/S7-1500)"	V	V	V	Direct Link (Ethernet)
	SIMATIC S7-200 SMART (Ethernet)	V	V	V	Direct Link (Ethernet)
	SIMATIC S7-200 (Ethernet)	V	V	V	Direct Link (Ethernet)
	LOGO (Ethernet)	V	V	V	Direct Link (Ethernet)
Taian Automation Co.,Ltd.	TP03 Series (Modbus RTU)	V	V	V	Direct Link (COM)
	TP02 Series	V	V	V	Direct Link (COM)
Taiwan Instrument & Control Co., Ltd.	TAIE FY100/900 Series (RTU)	V	V	V	Direct Link (COM)
	TAIE FY100/900 Series (TAIE)	V	V	V	Direct Link (COM)
	FY series DIGITAL PID CONTROLLER	V	V	N/A	Direct Link (COM)
Teco Electric & Machinery Co.,Ltd.	TSDA Series AC Servo	V	V	V	Direct Link (COM)
	TP03 Series (Modbus RTU)	V	V	V	Direct Link (COM)
	TP02 Series	V	V	V	Direct Link (COM)
	TSTA Series AC Servo	V	V	V	Direct Link (COM)
TESHOW ELECTRONIC.	MY90V/MY40V Series (RTU)	V	V	V	Direct Link (COM)
Texas Instruments Incorporated	TI505	V	V	V	Direct Link (COM)
Thinget Electronic Co., Ltd.	XC Series Controller (RTU)	V	V	V	Direct Link (COM)
	IPC-03 Series (RTU)	V	V	V	Direct Link (COM)
TOHO Electronics Inc.	TTX-700 (Modbus RTU)	V	V	V	Direct Link (COM)
	TTM-000 Series (TOHO Protocol)	V	V	V	Direct Link (COM)
	TTM-200 Series (TOHO Protocol)	V	V	N/A	Direct Link (COM)
TOKY ELECRTICAL	DW8-CD18B	V	V	V	Direct Link (COM)
Tokyo Keiso	UCM-04A	V	V	V	Direct Link (COM)
Toshiba Schneider Inverter Corporation	TOSVERT VF Series(Modbus RTU)	V	V	V	Direct Link (COM)
TPM	EPC-1000	V	V	V	Direct Link (Ethernet)

Brand	Model	WOP-2000T	Panel Express	WOP-3000T	Type
Unitronics	Vision 120 Series (Modbus RTU)	V	V	V	Direct Link (COM)
USAT Technologies	AX (CPU Port)	V	V	V	Direct Link (COM)
	AX2N (CPU Port)	V	V	V	Direct Link (COM)
	AX3U (CPU Port)	V	V	V	Direct Link (COM)
Vertex Technology Co,. Ltd	VT26/30 Series Controllers (RTU)	V	V	V	Direct Link (COM)
Vigor Corporation	M/VB Series	V	V	V	Direct Link (COM)
	VS Series	V	V	N/A	Direct Link (COM)
VIPA GmbH	VIPA 100V/200V MPI Port	V	N/A	N/A	Direct Link (COM)
Vware	Null PLC	V	V	V	Direct Link (COM)
	N-to-1 Master (COM)	V	V	V	Communication Service (COM)
	Multi-drop Client (COM)	V	V	V	Indirect Link via N-to-1 Connection (COM)
	N-to-1 Master (Ethernet)	V	V	V	Communication Service (Ethernet)
	N-to-1 Slave (Ethernet)	V	V	V	Indirect Link via N-to-1 Connection (Ethernet)
	General Device (COM)	V	V	V	Direct Link (COM)
	Data Sharer (RS485)	V	N/A	V	Direct Link (COM)
WAGO Kontakttechnik GmbH & Co. KG	WAGO-I/O-SYSTEM 750	V	V	V	Direct Link (Ethernet)
Wanfeng Electric	WF Series	V	V	V	Direct Link (COM)
YABOS	Hospital System	V	V	V	Direct Link (COM)
	Dentists	V	V	V	Direct Link (COM)
YAMAHA MOTOR CO., LTD.	Single-axis Robot Controller ERCD	V	V	V	Direct Link (COM)
Yamatake Corporation	SDC35/36 Temperature (RTU)	V	V	V	Direct Link (COM)
	SDC35/36 Temperature (ASCII)	V	V	V	Direct Link (COM)
	MA500 FA Controller (ECL Host)	V	V	V	Direct Link (COM)
	DMC10 Controller (RTU)	V	V	V	Direct Link (COM)
	DMC10 Controller (ASCII)	V	V	V	Direct Link (COM)
	MX30	V	V	V	Direct Link (COM)
	MX50	V	V	V	Direct Link (COM)
	Σ-IISGDM/H Series AC Servo	V	V	V	Direct Link (COM)
	MP Series Controller (Memobus)	V	V	V	Direct Link (COM)
	ModBus Device/Slave (TCP/IP)	V	V	V	Direct Link (Ethernet)
	Extended MEMOBUS	V	V	V	Direct Link (Ethernet)
	MP Series Ethernet (Extension)	V	V	N/A	Direct Link (Ethernet)
	V7 inverter (Memobus)	V	V	V	Direct Link (COM)
	NS600 Servo Controller	V	V	V	Direct Link (COM)
YE-LI ELECTRIC & MACHINERY Co., Ltd.	YPV Servo Controller	V	V	V	Direct Link (COM)
	YJD Servo Controller	V	V	V	Direct Link (COM)
Yokogawa Electric Corporation	FA-M3 Series (CPU Port)	V	V	V	Direct Link (COM)
	FA-M3 Series (UDP)	V	V	V	Direct Link (Ethernet)
	FA-M3 Series (TCP)	V	V	V	Direct Link (Ethernet)
Yudian Automation Technology Ltd.	AI-7048 (AiBus)	V	V	V	Direct Link (COM)
	AI518/708/808/518P/708P/808P Controller (Albus)	V	V	V	Direct Link (COM)
Zhuhai Motion Control Motor Co., Ltd.	BP Series PSDA driver (RTU)	V	V	N/A	Direct Link (COM)