Pro-face
Your HMI and Industrial PC Authority

APL3000SERIES
Industrial Computer with Ultimate Expandability

PS3000SERIES
Industrial Computer Selected for High Usability

FP3000SERIES
DVI I/F Flat Panel Display

WinGPSERIES
Runtime Engine for HMI Software "GP-Pro EX"

Pro-face Industrial Computers

Reliability, Availability, Serviceability; High Quality is the Pro-face Standard

As a company leading the way in human-machine interface (HMI), we have produced a panel computer that integrates a touch panel monitor with a PC body, which is the first in the world. Since the launch of this product, we have retained the top share* in Japan as a manufacturer of panel computers and programmable displays, attaining high reputations in many production fields throughout the world.

The HMI that Pro-face advanced is further enhancing its importance as a key technology in production fields.

Excerpt from "2006 Fuji Economic Mechatronics Parts"

Quality is Our First Priority

Pro-face products have undergone strict quality evaluation and environmental resistance tests, from the design/development to manufacturing stages.

Reliability

Availability
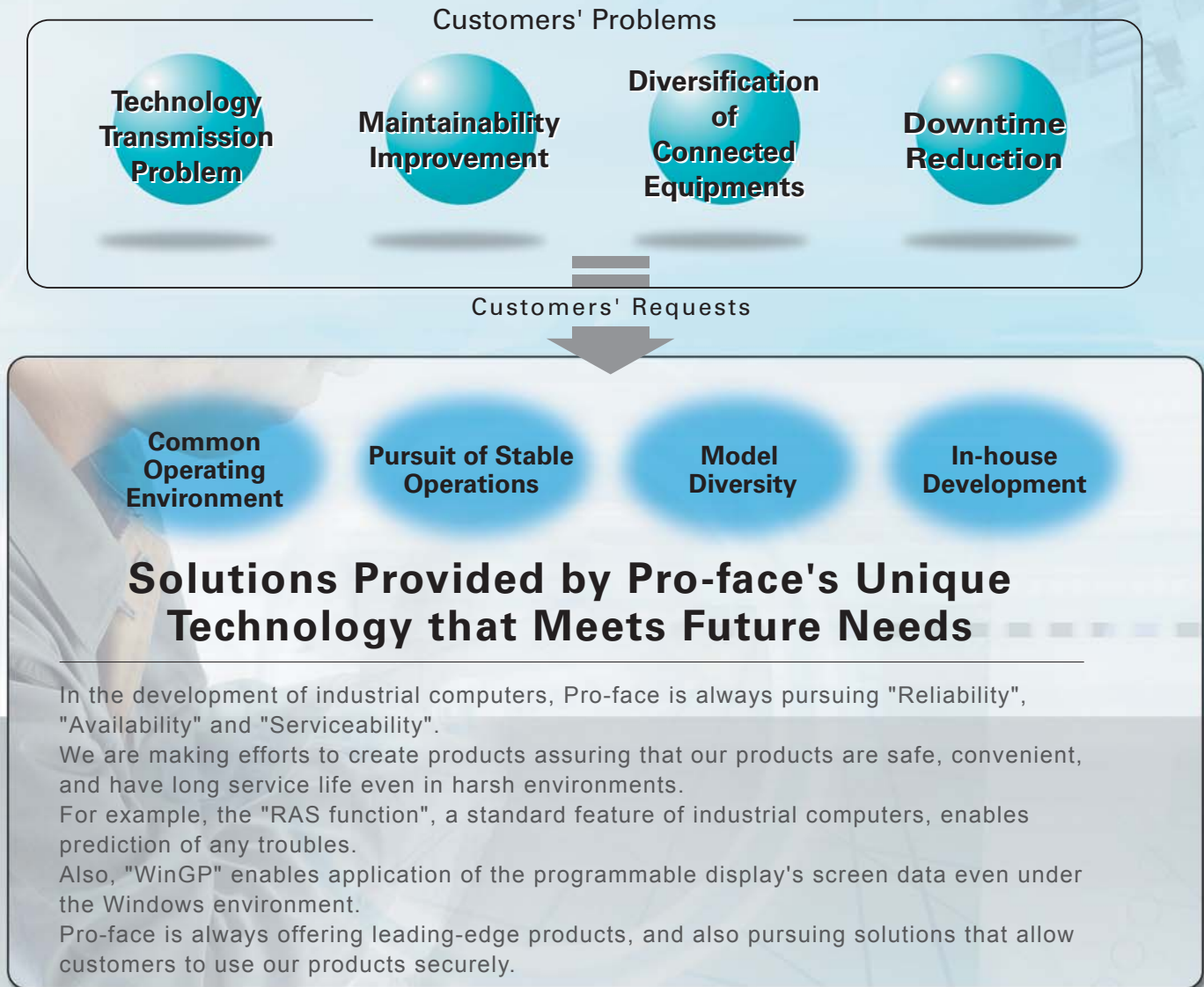
Serviceability

Cutting Edge Technology

There are various needs and customers' requirements in the field.
We will supply the most suitable products for individual products applications, as well as maintaining optimum functions to meet such field needs and requirements.

Thorough Maintenance, Inspection and Support System

For the purpose of replacement of consumables and system version upgrading, ease of parts requirement and maintenance in production fields is essential to stable operations.

2

Technology to Meet the Customers' Exact Needs

The customers' required level for industrial computers is much higher than that for general-purpose PCs. Therefore, we are requested to offer high reliability that can withstand extremely harsh environments in the filed. In terms of environmental resistance directly associated with a production field where the Pro-face industrial computer is installed, there is no room for compromise.

Pro-face industrial computers will continue to meet customers' expectations in a wide spectrum of fields, from controllers at the forefront of production to servers for collecting overall plant information.

Customers' Problems

- Technology Transmission Problem
- Maintainability Improvement
- Diversification of Connected Equipments
- Downtime Reduction

Customers' Requests

- Common Operating Environment
- Pursuit of Stable Operations
- Model Diversity
- In-house Development

Solutions Provided by Pro-face's Unique Technology that Meets Future Needs

In the development of industrial computers, Pro-face is always pursuing "Reliability", "Availability" and "Serviceability".

We are making efforts to create products assuring that our products are safe, convenient, and have long service life even in harsh environments.

For example, the "RAS function", a standard feature of industrial computers, enables prediction of any troubles.

Also, "WinGP" enables application of the programmable display's screen data even under the Windows environment.

Pro-face is always offering leading-edge products, and also pursuing solutions that allow customers to use our products securely.

Pro-face's Policy

The In-house Design from Fundamental Stages

Assuming that our products have any problem during use at a customer's site (incompatibility with connected equipment, or a problem specific to the Windows environment), we internally design our products from the fundamental stages, including motherboard design.

Therefore, in case of a failure in the operating environment, we can identify the cause of the problem and flexibly and quickly take actions.

Strict Environmental Resistance Test

Pro-face products have undergone test simulation under harsh environmental conditions on the assumption they will be used in harsh FA environments. We will offer customers only products that have passed strict in-house tests, such as vibration resistance test, as well as a heat resistance tests against heat as the worst enemy to precision equipment.

Compatibility Problem Reduction

BIOS, as a key part of a machine, has undergone internal optimization by the series in order to prevent any possible trouble caused by incompatibility with principle components of the machine.

Reduction in the Number of Steps on the Customers' Side

Installation of drivers for principle components is indispensable in the introductory step.

Placing emphasis on availability in the site, we will deliver our products with the drivers pre-installed, so as to minimize the number of steps to be taken.

3

Broad Product Selection to Meet Customer's Application Needs!

Industrial Computers with the Ultimate in Expandability and Serviceability

APL3000 SERIES

- Performance suited to enduring high loads
- Continues operating without pause, even in emergency situations

Developed as an industrial computer with high specifications. Adopts the Intel® Dual Core CPU and 945GME chipset, as well as incorporating the maximum 4GB memory for enhancing the high speed processing capacity.
Equipped with the constant backup function in 2 HDDs using the mirroring software, as well as the security function to achieve 24-hour continuous operation.

Industrial Computers Providing Highest Value

PS3000 SERIES

- A wide variety of sizes are offered with high usability
- Best in class, all-in-one PC for your industrial applications

High evaluation has been achieved through the thin and compact, cost conscious panel computer equipped with more specifications than required.
Supporting multi-languages and enriching interfaces Complies with International Safety Standards in addition to a wide range of lineups.

DVI I/F Compatible Flat Panel Display

FP3000 SERIES

- Built-in DVI Interface to Express Information Vividly as Standard
- Built-in USB Interface with High General Versatility

Compliant with the RoHS directive, in addition to having a simple design with high general versatility.
Incorporates USB and DVI for interfaces.
Furthermore, by connecting with our built-in computer, the display provides vivid images even if installed 10m away from the main unit.

Intuitive HMI Software for Easy Screen Development

GP-Pro EX + WinGP

- Flexibility not influenced by hardware
- Time saving thanks to easy operation
- Easy to create GUI for Windows®

Excellent screen creation software that can be used for direct operation. Additionally, communication drivers by various manufacturers are attached as standard. With easy connection settings, you can precisely get any necessary information. Compatible with all Pro-face's "3000 Series" models.
No need to re-create the screen for each hardware unit.

▶ P.22~P.23

APL 3000 SERIES

Industrial Computer with Ultimate Expandability and Serviceability
▶ P.8~P.11

19"	15"	12.1"
Pursues High Performance as well as Expandability and Serviceability	Pursues High Performance as well as Expandability and Serviceability	Pursues High Performance as well as Expandability and Serviceability
APL-3900T	APL-3700T APL-3700K	APL-3600T APL-3600K

APL 3000 SERIES — Built-in Computer

▶ P.8~P.11

Pursues High Performance as well as Expandability and Serviceability

APL-3000B

PS 3000 SERIES

Industrial Computer Selected by Usability
▶ P.12~P.17

15"	12.1"	8.4"
High-speed Processing Available with a Large, Thin Screen	12.1" XGA with Rich Expression Screen Display	Perfectly Suited for Space Saving and Diskless Operation
PS-3710A	PS-3650A	PS-3450A

PS 3000 SERIES — Built-in Computer

▶ P.12~P.17

Compact, Perfectly Suited to Collect Production Information

PS-3000B

FP 3000 SERIES

DVI I/F Compatible Flat Panel Display
▶ P.18~P.19

19"	15"	12.1"	10.4"
Multiple Images Displayed on a Large Screen	High Visibility Plus Maintenance Efficacy	DVI Improves Visibility at Site	DVI Improves Visibility at Site
FP-3900T	FP-3710T FP-3710K	FP-3650T FP-3600T	FP-3500T

Battery — No worry about trouble caused by sudden blackout, or voltage reduction.

Mirror Software — Constant backup function guarantees safe and secure operation.

Environmental Resistance — IP65f NEMA 4/4x/12 rated excellent environmental resistance protects the product from water, dust, high temperatures, and humidity at sites.

Compatible with WinGP — Utilize screen data using "GP-Pro EX".

Front USB — Built-in USB I/F on the front panel of the unit. Easy to connect a peripheral device.

RAS Function — Detect errors in advance with the equipment monitor function.

Diskless — Compatible with XP Pro. Avoid trouble using the CF card.

Keypad Type — Keyboard integrated with the main unit. Easy operation available.

Service & Support — No worry about sudden trouble or repair. Quick support via telephone or Website.

HDD Cartridge — Simple HDD removal results in maintenance time reduction.

Pro-face Industrial Computer Lineup

	Industrial Computer with Ultimate Expandability and Serviceability						Industrial Computer Selected for High Usability
	APL3000 SERIES						PS3000 SERIES
	APL-3900T	APL-3700T	APL-3600T	APL-3700K	APL-3600K	APL-3000B	PS-3710A
Reference Page ▶	▶P.8			▶P.10			▶P.12
Screen Size	19"	15"	12.1"	15"	12.1"	Node PC	15"
Graphics	SXGA (1280 x 1024 pixels)	XGA (1024 x 768 pixels)	SVGA (800 x 600 pixels)	XGA (1024 x 768 pixels)	SVGA (800 x 600 pixels)	VGA (640 x 480 pixels) to UXGA (1600 x 1200 pixels)	XGA (1024 x 768 pixels)
OS	Windows® XP **Pro / XP ML						Windows® **XP Pro / XP ML
CPU	Core™ Duo 2.0GHz / Celeron® M440 1.86GHz						Pentium® M 1.6GHz
Memory	DDR2 1GB to 4GB						DDR 1GB to 2GB
Chip Set	Intel® 945GME + ICH7M						Intel® 855GME + ICH4
HDD	60 GB <S-ATA> / 8GB SSD (Bootable CompactFlash)						60 GB <S-ATA> / 8GB SSD (Bootable CompactFlash)
Interface — CF Card	1 Slot						1 Slot
Interface — Serial	4 Ports						4 Ports
Interface — Ethernet	1 Port〈1000BASE-T〉 1 Port〈100BASE-TX〉						1 Port〈1000BASE-T〉 1 Port〈100BASE-TX〉
Interface — USB (Host)	5 Ports (Front 1, Side 4)					4 Ports (Side 4)	* 5 Ports (Front 1, Side 4)
Interface — PS/2	——						1 Port
Interface — Optical Drive	DVD-R/W						DVD-ROM
Interface — Floppy Drive	——						1 Slot
Interface — PCMCIA	——						2 Slots
Power Supply	AC100 to 240V						AC100 to 240V
	DC 24V						DC24V
Fanless	——						——
Expansion Slots	2 Slots〈PCI〉						1 Slot 〈PCI〉
	4 Slots〈PCI〉						

*Front USB port available
on PS3710-T42 Models

Industrial Computer Selected for High Usability

PS3000 SERIES

PS-3650A	PS-3450A	PS-3000B
▶P.14	▶P.16	▶P.16
12.1"	8.4"	Node PC
XGA (1024 x 768 pixels)	SVGA (800 x 600 pixels)	VGA (640 x 480 pixels) to (1920 x 1080 pixels) to FULLHD (1920 x 1680 pixels)
Windows® **XP Pro / XP ML		Windows® **XP Pro / XP ML
Celeron® M 1.3GHz	ULV Celeron® M 1.0GHz	ULV Celeron® M 1.0GHz
DDR 1GB		
Intel® 855GME + ICH4		
40 GB <IDE> / 8GB SSD (Bootable CompactFlash)		40 GB <IDE> / 8GB SSD (Bootable CompactFlash)
1 Slot	2 Slots	2 Slots
1 Port	2 Ports	2 Ports
2 Ports 〈100BASE-TX〉	1 Port 〈1000BASE-T〉 1 Port 〈100BASE-TX〉	1 Port 〈1000BASE-T〉 1 Port 〈100BASE-TX〉
5 Ports (Front 1, Side 4)	4 Ports	4 Ports
――	――	――
――	――	――
――	――	――
1 Slot	――	――
AC100 to 240V	AC100 to 240V	AC100 to 240V
DC24V	DC24V	――
――	――	――
1 Slot 〈PCI〉	1 Slot 〈PCI〉	1 Slot 〈PCI〉

DVI I/F Compatible Flat Panel Display

FP3000 SERIES

FP-3900T	FP-3710T	FP-3650T	FP-3600T	FP-3500T	FP-3710K
▶P.18					
19"	15"	12.1"		10.4"	15"
SXGA (1280 x 1024 pixels)	XGA (1024 x 768 pixels)	SVGA (800 x 600 pixels)		VGA (640 x 480 pixels)	XGA (1024 x 768 pixels)
AC100 to 240V		AC 100 to 240V		AC 100 to 240V	AC 100 to 240V
		DC24V		DC24V	
USB (Front Slot) x 1 port or Without USB		USB (Bottom Slot) x 1 port			USB (Front Slot) x 1 port

Direct connection between the FP unit and a USB device using the built-in USB interface!

■ **FP-3900T / 3710T / 3710K (Front USB Type)**

Image input (DVI cable 5 m)

Touch & USB Device Data (USB cable: 5m)

Operation panel   Control panel

■ **FP-3650T / 3600T / 3500T**

A USB front mounting cable allows a USB device to be connected from the panel.

***The XP Pro OS installed in units with an 8 GB flash card supports English,
French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.*

Lineup

APL3000 SERIES

PS3000 SERIES

FP3000 SERIES

Option

WinGP

Pro-face Approach

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Pursues High Performance as well as Expandability and Serviceability

APL-3900T / 3700T / 3600T
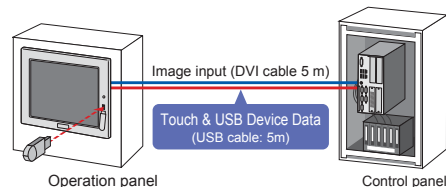
HDD Mirror Software | Environmental Resistance | Compatible with WinGP | Front USB

RAS Function | Diskless | HDD Cartridge | Service & Support

| 19" SXGA | 15" XGA | 12.1" SVGA |

Core™ Duo 2.0GHz

Celeron® M440 1.86GHz

- ● Dual HDD supported ● Mirror utility software supported (Optional)
- ● HotSwap supported (only when the Software Mirror Utility is used)
- ● DVI-I ● Compliant with the RoHS directive ● IP65f, NEMA 4/4x/12 rated
- ● RAID option available ● WinGP option available

	Size	CPU	Supported OS	Memory	PC/AT Standard Interfaces	Power Supply	Expansion Slots
APL-3900T	19" SXGA	Core™ Duo 2.0GHz Celeron® M440 1.86GHz	Windows® XP Pro XP ML	DDR2 SDRAM 1GB to 4GB	CFCard X 1 Serial X 4 Ethernet X 2 USB X 5 DVD-R/W X 1	AC100 to 240V DC24V	4 slot 2 slot
APL-3700T	15" XGA						
APL-3600T	12.1" SVGA	Common platform adopted					

Features of the APL3000 Series

High Performance Industrial Computer

For system architecture through high-speed processing of images or large capacity data.
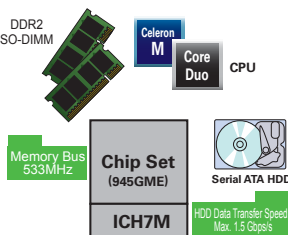
High Performance Built-in CPU

For system architecture through high-speed processing of images or large capacity data, High performance and low energy-consuming built-in Intel® Core™ Duo processor Higher speed processing is possible thanks to the Dual Core CPU.

Memory Capacity 4GB at Maximum

Can store memory as large as 4GB.
Pursues higher performance with DDR2 standard complying memory.

Serial ATA HDD Applied

A serial ATA HDD which can transfer data as fast as 1.5Gbps is built-in. This makes high speed data processing possible at a large capacity.

DDR2 SO-DIMM

Celeron M | Core Duo CPU

Memory Bus 533MHz

Chip Set (945GME)

ICH7M

Serial ATA HDD

HDD Data Transfer Speed: Max. 1.5 Gbps/s

24-hour Continuous Operation

Data protection function and quick maintenance control recovery time is as little as possible to regain important data lost due to device breakage or momentary stop.

Software Mirror Utility

The software mirror function is available for writing the data to 2 HDDs simultaneously, without any load to the CPU, and providing perfect data backup.

Data | HDD | Back Up HDD

HDD Cartridge

Can reduce maintenance time with the application of the cartridge disk type, only requiring HDD replacement.

HotSwap

Can replace the HDD unit without stopping the device even with the power turned ON thanks to the HotSwap function.
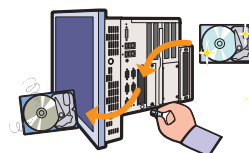
External Dimensions/Interfaces

Units: mm[in.]

APL-3900T (2 slot)

2 slot : 181.2 [7.13]
4 slot : 233.2 [9.18] (1.8) [0.07]

460 [18.11] 12.7 [0.5]

390 [15.35] 352 [13.86]

419 [16.50]

Panel Cut-Out Dimensions

352.5$^{+1}_{-0}$ [13.88$^{+0.04}_{-0}$]

Under 4-R3

419.5$^{+1}_{-0}$ [16.52$^{+0.04}_{-0}$]

Allowable Panel Thickness: 1.6 to 10.0

Units are shown without DVD-RW; add 37.5mm (1.47") to the depth (D).

APL-3700T (2 slot)

2 slot : 165.5 [6.52]
4 slot : 217.5 [8.56] (1.8) [0.07]

425 [16.73] 10 [0.39]

325 [12.80] 282 [11.10]

383 [15.08]

Panel Cut-Out Dimensions

282.5$^{+1}_{-0}$ [11.12$^{+0.04}_{-0}$]

Under 4-R3

383.5$^{+1}_{-0}$ [15.10$^{+0.04}_{-0}$]

Allowable Panel Thickness: 1.6 to 10.0

Units are shown without DVD-RW; add 37.5mm (1.47") to the depth (D).

APL-3600T (2 slot)

2 slot : 165.1 [6.50]
4 slot : 217.1 [8.55] (1.8) [0.07]

338 [13.31] 10 [0.39]

286 [11.26] 243 [9.57]

295 [11.61]

Panel Cut-Out Dimensions

243.5$^{+1}_{-0}$ [9.59$^{+0.04}_{-0}$]

Under 4-R3

295.5$^{+1}_{-0}$ [11.63$^{+0.04}_{-0}$]

Allowable Panel Thickness: 1.6 to 10.0

Units are shown without DVD-RW; add 37.5mm (1.47") to the depth (D).

Parts Name

1. DVI-I Interface
2. Ethernet Interface (10 Base-T/100 Base-TX Auto change)
3. Ethernet Interface (10BASE-T/100BASE-TX/1000BASE-T Auto change)
4. Expansion Slot
5. HDD Slot (Serial ATA)
6. USB Interface
7. Speaker Output Interface
8. Serial (RS-232C) Interface
9. RAS Interface
10. CF Card Slot (IDE Interface)
11. Power Connector (European Terminal)
12. Power Switch
13. System Fan
14. Front USB Interface
15. *DVD-R/W (Unit drawings are shown without DVD-R/W)

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Lineup | APL3000 SERIES | PS3000 SERIES | FP3000 SERIES | Option | WinGP | Pro-face Approach

APL-3900T / 3700T / 3600T

■ Performance Specifications

Model	APL3900-TA	APL3900-TD	APL3700-TA	APL3700-TD	APL3600-TA	APL3600-TD
Display Type	TFT Color LCD					
Display Size	19"		15"		12.1"	
Display Colors	262,144 colors					
Display Dots (Pixels)	1280 x 1024 pixels (SXGA)		1024 x 768 pixels (XGA)		800 x 600 pixels (SVGA)	
Backlight	CCFL (Backlight replacement: Sendback system)		CCFL (Replaceable)			
Effective Display Area	W376.32 [14.82] x H301.056mm [11.85in.]		W306.2 [12.06] x H230.1mm [9.06in.]		W248.0 [9.76] x H186.5mm [7.34in.]	
Brightness Control	4 levels (adjustment using software)					
Supported OS	Windows® XP Pro / XP ML					
CPU	Intel® Core™Duo 2.0GHz / Celeron® M440 1.86GHz					
L2 Cache Memory	2MB / 1MB (Embedded in CPU)					
Main Memory	DDR2 SDRAM (PC4200) 1GB / 2GB / 4GB (SO-DIMMx2 slots) (PC5300)					
Chip Set	Intel® 945GME + ICH7M					
Graphic Accelerator	Embedded in Intel® 945GME					
Video Memory	Max 64MB (UMA type)					
Graphics	SXGA (1280 x 1024 pixels)		XGA (1024 x 768 pixels)		SVGA (800 x 600 pixels)	
BIOS	Phoenix® TrustedCore™ BIOS					
Touch Panel Type	Resistive Film (Analog)					
Touch Panel Resolution	1024 x 1024					

Interface

Serial ATA	Serial ATA Rev.1.0a x 2 2.5 inch HDD Unit
IDE	Master: CF Card Slot (Type I / II) x 1*1 Slave: DVD-ROM Drive x 1
Serial (COM1)	RS-232C (RS-232C / 422 / 485 changeover, RI / + 5V changeover) Connector: D-Sub 9-pin Plug
Serial (COM2)	RS-232C (RI / +5V changeover) Connector: D-Sub 9-pin Plug
Serial (COM3)	RS-232C Connector: D-Sub 9-pin Plug
Serial (COM4)	RS-232C Connector: D-Sub 9-pin Plug
Ethernet (LAN1)	IEEE802.3u, 10BASE-T / 100BASE-TX / 1000BASE-T Auto change Connector: Modular Jack (RJ-45)
Ethernet (LAN2)	IEEE802.3u, 10BASE-T / 100BASE-TX Auto change Connector: Modular Jack (RJ-45)
USB	USB2.0 Connector: Type A x 5 (Front x 1, Side x 4) Power Voltage: DC5V±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m
Video	DVI-I Output*2 Connector: DVI-I 29-pin Socket
RAS	Input (usable as an external reset input): 2 points, Output: 2 points Rated Voltage: DC12V Maximum Rated Current: 100mA Connector: D-Sub 9-pin Socket x 1
Sound	Speaker Output Connector: Mini Pin Jack x 1
CD/DVD-R/W Drive	DVD-R/W Drive

*1 Can switch between master and slave according to the settings.*2 Only the analog RGB output is supported.

■ General Specifications

Model	APL3900-TA	APL3900-TD	APL3700-TA	APL3700-TD	APL3600-TA	APL3600-TD
International Safety Standards	UL LISTED / c UL LISTED / CSR / CE					
Comforming to Standards	UL 1604, UL508, CSA22.2, No.142, EN55011 Class A, EN61000-3-2, EN61000-3-3, EN61000-6-2, EN61131-2, EN60950 (AC model only), 47 CFR Part 15 Class A					

Power Supply

	APL3900-TA	APL3900-TD	APL3700-TA	APL3700-TD	APL3600-TA	APL3600-TD
Rated Voltage	AC100 to 240V	DC24V	AC100 to 240V	DC24V	AC100 to 240V	DC24V
Rated Voltage Range	AC85 to 264V	DC19.2 to 28.8V	AC85 to 264V	DC19.2 to 28.8V	AC85 to 264V	DC19.2 to 28.8V
Rated Frequency	50 / 60Hz	———	50 / 60Hz	———	50 / 60Hz	———
Allowable Voltage Drop	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less
Power Consumption	145VA or less	145W or less	145VA or less	145W or less	145VA or less	145W or less

	APL3900-TA	APL3900-TD	APL3700-TA	APL3700-TD	APL3600-TA	APL3600-TD
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	DC 10MΩ or more at 500V (between charging and FG terminals)					
Ambient Operating Temperature	<With HDD> 5 to 50°C <Without HDD> 0 to 50°C					
Storage Temperature	-20 to +60°C					
Ambient Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: <With HDD> 29°C or lower, <Without HDD> 39°C or lower)					
Storage Humidity	10 to 90%RH (No condensation)(Wet-bulb temperature : 39°C or lower)					
Pollution Degree	Pollution Degree 2					
Corrosive Gases	Free of corrosive gases					
Air Pressure Resistance (Operation Altitude)	800 to 1114hPa (2000m or lower above sea level)					
Vibration Resistance	JISB3502, IEC/EN 61131-2 compliant <With HDD> 10 to 57Hz Half Amplitude: 0.075mm, 57 to 150Hz Constant Acceleration: 9.8m/s², X, Y, Z directions 10 cycles (for 100 minutes) <Without HDD> 5 to 9Hz Half Amplitude: 3.5mm, 9 to 150Hz Constant Acceleration: 9.8m/s², X, Y, Z directions 10 cycles (for 100 minutes)					
Noise Immunity	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6kV (IEC/EN 61000-4-2 Level 3)					
Grounding	Protection:Type D (Common to SG-FG) Function: Type D (Common to SG-FG)					
Ratings	Equivalent to IP65f, NEMA 4/4X/12 (for the panel-installed front area when not using the front-face USB port unit)*3					
External Dimensions (W x H x D) (With DVD-R/W)	2 slots: W460mm [18.11in.] x H390mm [15.35in.] x D218.7mm [8.61in.] 4 slots: W460mm [18.11in.] x H390mm [15.35in.] x D270.7mm [10.65in.]		2 slots: W425mm [16.73in.] x H325mm [12.8in.] x D203.0mm [7.98in.] 4 slots: W425mm [16.73in.] x H325mm [12.8in.] x D255.0mm [10.03 in.]		2 slots: W338mm [13.31in.] x H286mm [11.26in.] x D203mm [7.98in.] 4 slots: W338mm [13.31in.] x H286mm [11.26in.] x D255mm [10.03in.]	
Weight (With DVD-R/W)	2 slots: Approx. 15.45kg [34.0lb] 4 slots: Approx. 16.45kg [36.2lb]		2 slots: Approx. 13.45kg [29.6lb] 4 slots: Approx. 14.45kg [31.8lb]		2 slots: Approx. 9.45kg [20.8lb] 4 slots: Approx. 10.45kg [23.0lb]	
Cooling Method	Forced Air Cooling by CPU Fan					

*3 Meets applicable testing requirements. Operation is not, however, guaranteed in every environment.

■ Expansion Slots

Item	2 slot	4 slot	Board size
1st slot	PCI Rev.2.3 (5V)	PCI Rev.2.3 (5V)	174.63 [6.88] x 106.68mm [4.20in.]
2nd slot	PCI Rev.2.3 (5V)	PCI Rev.2.3 (5V)	174.63 [6.88] x 106.68mm [4.20in.]
3rd slot	———	PCI Rev.2.3 (5V)	250 [9.84] x 106.68mm [4.20in.]
4th slot	———	PCI Rev.2.3 (5V)	250 [9.84] x 106.68mm [4.20in.]
Power Supply*4	DC5V: 2.0A, DC12V: 1.0A, DC-12V: 0.1A, DC3.3V: 1.0A	DC5V: 4.0A, DC12V: 1.0A, DC-12V: 0.1A, DC3.3V: 2.0A	———

*4 Maximum power supply is 35W for APL-3900T, and 40W for other models.

■ Option Menu

APL3**9**00 – [TA] – [CD2G] – [4P] – [2G] – [XM60] – [M] – [ ]

Size	Main Unit Type / Power Supply		CPU	Expansion Slots	Memory	OS (Pre-installed HDD)	Others	Other Optional Items
9 19"Touch Panel LCD	**BA** Built-in Computer AC Power Supply	**KA** Panel Computer with Keypad AC Power Supply	**CD2G** Core® Duo 2.0GHz	**2P** PCI / 2 slot	**1G** 1GB	**XM60** Windows® XP ML ver.	**M** DVD-R/W Drive Unit	Add "- R" for RAID option [R]
7 15" Touch Panel LCD	**BD** Built-in Computer DC Power Supply	**KD** Panel Computer with Keypad DC Power Supply	**CM18** Celeron™ M440 1.86GHz	**4P** PCI / 4 slot	**2G** 2GB			
6 12.1" Touch Panel LCD	**TA** Panel Computer AC Power Supply				**4G** 4GB	**XPC08** *8 GB CF Card Windows® XP Pro		Add "-WG" for Win GP option [WG]
0 Built-in (BOX)	**TD** Panel Computer DC Power Supply							

— Choice Menu —

*The XP Pro OS installed in units with an 8 GB flash card supports English, French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.

9

Industrial Computer with Ultimate Expandability and Serviceability **APL3000 SERIES**

APL3000 SERIES

Pursues High Performance as well as Expandability and Serviceability

APL-3700K / 3600K / 3000B

Mirror Software (Back up HDD) · Environmental Resistance · Compatible with WinGP · Front USB · RAS Function · Diskless · Keypad Type · HDD Cartridge · Service & Support

15" XGA   12.1" SVGA

Core™ Duo 2.0GHz
Celeron® M440 1.86GHz

- Dual HDD supported ● Mirror utility software supported (Optional)
- HotSwap supported (only when the Software Mirror Utility is used)
- DVI-I ● Compliant with the RoHS directive
- RAID option available ● WinGP option available
- IP65f, NEMA 4/4x/12 rated (except for APL3000-B)

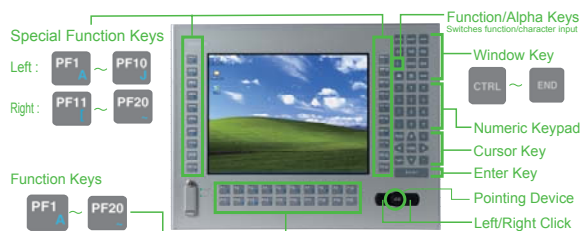|	Size	CPU	Supported OS	Memory	PC/AT Standard Interfaces	Power Supply	Expansion Slots
APL-3700K	15" XGA	Core™ Duo 2.0GHz Celeron® M440 1.86GHz	Windows® XP Pro XP ML	DDR2 SDRAM 1GB to 4GB	CFCard X 1 Serial X 4 Ethernet X 2 USB X 5 DVD-R/W X 1	AC100 to 240V DC24V	4 slot 2 slot
APL-3600K	12.1" SVGA						
APL-3000B	Node PC	Common platform adopted					

Features of the APL3000 Series

One-unit that Integrates a Keyboard and a Mouse with a PC Body

Panel computer with keypads available with keyboard key switch (membrane) at the front.

Features

· Special function keys for customization. · Can be operated without a mouse.
· Built-in Front USB as standard.

Special Function Keys
Left : PF1 A ~ PF10
Right : PF11 L ~ PF20

Function Keys
PF1 A ~ PF20

Function/Alpha Keys
Switches function/character input
Window Key
CTRL ~ END
Numeric Keypad
Cursor Key
Enter Key
Pointing Device
Left/Right Click

No Worry About Sudden Blackout with a Battery Unit.

No excess space needed for built-in type in the body.

Adopts a common platform to reduce the number of evaluation steps.

The APL3000 Series offers various models including the panel computer, keypad-attached and built-in computer.
When a customer purchases multiple models, we adopt the common hardware platform for the requirement of the minimum number of evaluation steps.

External Dimensions/Interfaces

Units: mm[in.]

APL-3700K (2 slot)

2 slot: 165.5 [6.52]
4 slot: 217.5 [8.56]
(1.8) [0.07]
488 [19.21]
10 [0.39]
367 [14.45]
313 [12.32]
441 [17.36]

Units are shown without DVD-RW; add 37.5mm (1.47") to the depth (D).

Panel Cut-Out Dimensions
Under 4-R3
313.5⁺¹₋₀ [12.34⁺⁰·⁰⁴₋₀]
441.5⁺¹₋₀ [17.38⁺⁰·⁰⁴₋₀]
Allowable Panel Thickness: 1.6 to 10.0

APL-3600K (2 slot)

2 slot: 165.5 [6.25]
4 slot: 217.5 [8.56]
(1.8) [0.07]
425 [16.73]
10 [0.39]
325 [12.80]
282 [11.10]
383 [15.08]

Units are shown without DVD-RW; add 37.5mm (1.47") to the depth (D).

Panel Cut-Out Dimensions
Under 4-R3
282.5⁺¹₋₀ [11.12⁺⁰·⁰⁴₋₀]
383.5⁺¹₋₀ [15.10⁺⁰·⁰⁴₋₀]
Allowable Panel Thickness: 1.6 to 10.0

APL-3000B (2 slot)

243 [9.57]
(12) [0.47]
289 [11.38]
277 [10.91]
243 [9.57]
125.5 [4.94]
277 [10.91]

IMPORTANT NOTE: All APL drawings are shown without the 4-slot option and without a DVD-R/W drive. A DVD-R/W drive is shipped with all units and will add 37.5 mm (1.47") to the depth of each unit. Adding 2 additional PCI slots will increase the depth by an additional 51.0 mm (2.01").

Parts Names

①	DVI-I Interface	⑧	Serial (RS-232C) Interface
②	Ethernet Interface (10 Base-T/100 Base-TX Auto change)	⑨	RAS Interface
③	Ethernet Interface (10BASE-T/100BASE-TX/1000BASE-T Auto change)	⑩	CF Card Slot (IDE Interface)
④	Expansion Slot	⑪	Power Connector (European Terminal)
⑤	HDD Slot (Serial ATA)	⑫	Power Switch
⑥	USB Interface	⑬	System Fan
⑦	Speaker Output Interface	⑭	Front USB Interface
		⑮	DVD-R/W (Unit drawings are shown w/o DVD-R/W)

■ Performance Specifications

Model	APL3700-KA	APL3700-KD	APL3600-KA	APL3600-KD	APL3000-BA	APL3000-BD
Display Type	TFT Color LCD					
Display Size	15"		12.1"			
Display Colors	262,144 colors					
Display Dots (Pixels)	1024 x 768 pixels (XGA)		800 x 600 pixels (SVGA)			
Backlight	CCFL (Replaceable)					
Effective Display Area	W306.2 [12.06] x H230.1mm [9.06in.]		W248.0 [9.76] x H186.5mm [7.34in.]			
Brightness Control	4 levels (adjustment using software)					
Supported OS	Windows® XP ML / XP Pro					
CPU	Intel® Core™ Duo 2.0GHz / Celeron® M440 1.86GHz					
L2 Cache Memory	2MB / 1MB (Embedded in CPU)					
Main Memory	DDR2 SDRAM (PC4200) 1GB / 2GB / 4GB (SO-DIMMx2 slots) (PC5300)					
Chip Set	Intel® 945GME + ICH7M					
Graphic Accelerator	Embedded in Intel® 945GME					
Video Memory	Max 64MB (UMA type)					
Graphics	XGA (1024 x 768 pixels)		SVGA (800 x 600 pixels)		VGA (640 x 480 pixels) to UXGA (1600 x 1200 pixels)	
BIOS	Phoenix® TrustedCore™ BIOS					
Touch Panel Type	Resistive Film (Analog)					
Touch Panel Resolution	1024 x 1024					
Number of Key Switches	74					
Key Switch Type	Membrane Switch					

Interface:

Serial ATA	Serial ATA Rev.1.0a x 2 2.5 inch HDD Unit		
IDE	Master: CF Card Slot (Type I / II) x 1[*1] Slave: DVD-ROM Drive x 1		
Serial (COM1)	RS-232C (RS-232C / 422 / 485 changeover, RI / +5V changeover) Connector: D-Sub 9-pin Plug		
Serial (COM2)	RS-232C (RI / + 5V changeover) Connector: D-Sub 9-pin Plug		
Serial (COM3)	RS-232C Connector: D-Sub 9-pin Plug		
Serial (COM4)	RS-232C Connector: D-Sub 9-pin Plug		
Ethernet (LAN1)	IEEE802.3u, 10BASE-T / 100BASE-TX / 1000BASE-T Auto change Connecter: Modular Jack (RJ-45)		
Ethernet (LAN2)	IEEE802.3u, 10BASE-T / 100BASE-TX Auto change Connecter: Modular Jack (RJ-45)		
USB	USB2.0 Connector: Type A x 5 (Front x 1, Side x 4) Power Voltage: DC5V ±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m		USB2.0 Connector: Type A x 5 (Side x 4) Power Voltage: DC5V ±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m
Video	DVI-I Output Connector: DVI-I 29-pin Socket[*2]		
RAS	Input (usable as an external reset input): 2 points, Output:2 points, Rated Voltage: DC12V Maximum Rated Current: 100mA Connecter: D-Sub 9-pin socket x 1		
Sound	Speaker Output Connector: Mini Pin Jack x 1		
DVD-R/W Drive	DVD-R/W Drive		

*1 Can switch between master and slave according to the settings.   *2 Only the analog RGB output is supported in other models than PL-3000B.

■ General Specifications

Model	APL3700-KA	APL3700-KD	APL3600-KA	APL3600-KD	APL3000-BA	APL3000-BD
International Safety Standards	UL ᶜᴿᵁˢ LISTED ᶜᴿᵁˢ LISTED ⓈⓅ CE					
Comforming to Standards	UL 1604, UL508, CSA22.2, No.142, EN55011 Class A, EN61000-3-2, EN61000-3-3, EN61000-6-2, EN61131-2, EN60950 (AC model only), 47 CFR Part 15 Class A				UL1604, UL508, CSA-C22.2, No.142-M1987, EN55011 Class A, EN61000-6-2 and EN60950-1 (AC model only)	

Power Supply:

	APL3700-KA	APL3700-KD	APL3600-KA	APL3600-KD	APL3000-BA	APL3000-BD
Rated Voltage	AC100 to 240V	DC24V	AC100 to 240V	DC24V	AC100 to 240V	DC24V
Rated Voltage Range	AC85 to 264V	DC19.2 to 28.8V	AC85 to 264V	DC19.2 to 28.8V	AC85 to 264V	DC19.2 to 28.8V
Rated Frequency	50 / 60Hz	―	50 / 60Hz	―	50 / 60Hz	―
Allowable Voltage Drop	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less
Power Consumption	145VA or less	145W or less	145VA or less	145W or less	2 slots: 120VA or less 4 slots: 145VA or less	2 slots: 120W or less 4 slots: 145W or less

	APL3700-KA	APL3700-KD	APL3600-KA	APL3600-KD	APL3000-BA	APL3000-BD
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or more at DC500V (between charging and FG terminals)					
Ambient Operating Temperature	<With HDD> 5 to 50°C <Without HDD> 0 to 50°C					
Storage Temperature	-20 to +60°C					
Ambient Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: <With HDD> 29°C or lower <Without HDD> 39°C or lower)					
Storage Humidity	10% to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower)					
Pollution Degree	Pollution Degree 2					
Corrosive Gases	Free of corrosive gases					
Air Pressure Resistance (Operation Altitude)	800 to 1114hPa (2000m or lower above sea level)					
Vibration Resistance	JISB3502, IEC/EN 61131-2 compliant <With HDD> 10 to 57Hz Half Amplitude: 0.075mm, 57 to 150Hz Constant Acceleration: 9.8m/s², X, Y, Z directions 10 cycles (for 100 minutes) <Without HDD> 5 to 9Hz Half Amplitude: 3.5mm, 9 to 150Hz Constant Acceleration: 9.8m/s², X, Y, Z directions 10 cycles (for 100 minutes)					
Noise Immunity	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6kV (IEC/EN 61000-4-2 Level 3)					
Grounding	Protection: Type D (Common to SG-FG)	Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)	Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)	Function: Type D (Common to SG-FG)
Ratings	Equivalent to IP65f, NEMA 4/4x/12(for the panel-installed front area when not using the front-face USB port unit)[*3]					
External Dimensions (W x H x D) (With DVD-R/W)	2 slots: W488mm [19.21in.] x H367mm [14.45in.] x D203mm [7.98in.] 4 slots: W 488mm [19.21in.] x H367mm [14.45in.] x D255mm [10.03 in.]		2 slots: W425mm [16.73in.] x H325mm [12.8in.] x D203.0mm [7.98in.] 4 slots: W425mm [16.73in.] x H325mm [12.8in.] x D255.0mm [10.03 in.]		2-slot: W243mm [9.57in.] x H163mm [6.42in.] x D277mm [10.91in.] 4-slot: W243mm [9.57in.] x H214mm [8.42in.] x D277mm [10.91in.]	
Weight (with DVD-R/W) (With DVD-R/W)	2 slots: Approx. 14.45kg [31.8lb] 4 slots: Approx. 15.45kg [34.0lb]		2 slots: Approx. 12.45kg [27.4lb] 4 slots: Approx. 13.45kg [29.6lb]		2-slot: 7.45kg [16.4lb] max. 4-slot: 8.95kg [19.7lb] max.	
Cooling Method	Forced Air Cooling by CPU Fan					

*3 Meets applicable testing requirements. Operation is not, however, guaranteed in every environment.

■ Expansion Slots

Item	2 slot	4 slot	Board size
1st slot	PCI Rev.2.3 (5V)	PCI Rev.2.3 (5V)	174.63 [6.88] x 106.68mm [4.20in.]
2nd slot	PCI Rev.2.3 (5V)	PCI Rev.2.3 (5V)	174.63 [6.88] x 106.68mm [4.20in.]
3rd slot	―	PCI Rev.2.3 (5V)	250 [9.84] x 106.68mm [4.20in.]
4th slot	―	PCI Rev.2.3 (5V)	250 [9.84] x 106.68mm [4.20in.]
Power Supply	DC5V: 2.0A, DC12V: 1.0A, DC-12V: 0.1A, DC3.3V: 1.0A	DC5V: 4.0A, DC12V: 1.0A, DC-12V: 0.1A, DC3.3V: 2.0A	―

■ Option Menu

APL3 0 00 – [ ] – BA – CD2G – 4P – 2G – XM60 – M – [ ] –

Size	Main Unit Type / Power Supply		CPU	Expansion Slots	Memory	OS (Pre-installed HDD)	Others	Other Optional Items
9 19"Touch Panel LCD	BA Built-in Computer AC Power Supply	KA Panel Computer with Keypad AC Power Supply	CD2G Core® Duo 2.0GHz	2P PCI / 2 slot	1G 1GB	XM60 Windows® XP ML ver.	M DVD-R/W Drive Unit	Add "- R" for RAID option — R
7 15" Touch Panel LCD	BD Built-in Computer DC Power Supply	KD Panel Computer with Keypad DC Power Supply	CM18 Celeron™ M440 1.86GHz	4P PCI / 4 slot	2G 2GB			
6 12.1" Touch Panel LCD	TA Panel Computer AC Power Supply				4G 4GB	XPC08 *8 GB CF Card Windows® XP Pro		Add "-WG" for Win GP option WG
0 Built-in (BOX)	TD Panel Computer DC Power Supply							

Choice Menu

*The XP Pro OS installed in units with an 8 GB flash card supports English, French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.

Lineup

APL3000 SERIES

PS3000 SERIES

FP3000 SERIES

Option

WinGP

Pro-face Approach

High-speed Processing Available with a Large, Thin Screen

PS-3710A

Environmental Resistance | Compatible with WinGP | Front USB | RAS Function | Diskless | Service & Support

15" XGA

Pentium ® M 1.6GHz

- Touch-panel mouse emulation
- Replaceable backlight
- Rugged aluminium body   ● IP65f   ● Compliant with the RoHS directive
- Wake On LAN compliant   ● NEMA 4/4X/12 Rated
- WinGP option available

	Size	CPU	Supported OS	Memory	PC/AT Standard Interfaces		Power Supply	Fanless	Expansion Slots
PS-3710A	15" XGA	Pentium ® M 1.6GHz	Windows® XP Pro XP ML	DDR 1GB or 2GB	CF Card X 1 Serial X 4 Ethernet X 2 USB X 5	PS/2 X 1 DVD-ROM X 1 FDD X 1 PCMCIA X 2	24VDC or 100-240 VAC	—	1 slot

External Dimensions/Interfaces

Units: mm[in.]

PS-3710A-TA2

410 [16.04]
309 [12.7]
5.3 [0.210]
100 [3.94]
284 [11.08]
410 [16.04]

Panel Cut-Out Dimensions

Under 4-R3

284.5 $^{+1}_{0}$ [11.20 $^{+0.04}_{0}$]

386.1 $^{+1}_{0}$ [15.20 $^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

*RGB Interface only available on the PS-3710A-TA2 models

PS-3710A-T42

395 [15.55]
294 [11.57]
5 [0.20]
100 [3.94]
282 [11.10]
383 [15.08]

Panel Cut-Out Dimensions

Under 4-R3

282.5 $^{+1}_{0}$ [11.12 $^{+0.04}_{0}$]

383.5 $^{+1}_{0}$ [15.10 $^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

Parts Names

1. Ethernet Interface (10 Base-T/100 Base-TX Auto change)
   Ethernet Interface (10BASE-T/100BASE-TX/1000BASE-T Auto change)
3. Expansion Slot
4. USB Interface
5. Speaker Output Interface
6. Mic Input Interface
7. Line Input Interface
8. Serial (RS-232C) Interface
9. RAS Interface
10. CF Card Slot
11. DVD-ROM Drive
12. CD-ROM Drive
13. Floppy Drive
14. Printer Interface
15. Mouse Keyboard Interface (PS/2)
16. AC Power Interface
17. Power Connector (European Terminal)
18. System Fan
19. Front USB Interface (available only on T42 models)
20. RGB Interface (PS3710A-TA2 models only, located on left side, not shown)

■ Option Menu

Main Unit	Power Supply	CPU	Memory	Hard Drive or CompactFlash with Operating System
PS-3710A-T42 15" touch panel LCD 60 GB HD / 8GB CF Card	DC Power Supply ONLY	Pentium M 1.6GHz	1GB	60 GB HD Windows® XP ML ver.
			2GB	*8 GB CF Card Windows® XP Pro
PS-3710A-TA2 15" touch panel LCD 60 GB HD / 8GB CF Card	AC Power Supply ONLY	Pentium M 1.6GHz	1GB	60 GB HD Windows® XP ML ver.
			2GB	*8 GB CF Card Windows® XP Pro

Base Menu ——— Choice Menu

*The XP Pro OS installed in units with an 8 GB flash card supports English, French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.

Lineup | APL3000 SERIES | PS3000 SERIES | FP3000 SERIES | Option | WinGP | Pro-face Approach

PS-3710A / 3710A-T42 / 3710A-TA2

■ Performance Specifications

Model	PS3710A-T42-24V	PS3710A-TA2
Display Type	TFT Color LCD	
Display Size	15"	
Display Colors	262,144 colors	
Display Dots(Pixels)	1024 x 768 pixels (XGA)	
Backlight	CCFL (Replaceable)	
Effective Display Area	W304.1 [11.97] x H228.1mm [8.98in.]	
Brightness Control	4 levels (adjustment using software)	
Supported OS	Windows® XP Pro / XP ML	
CPU	Intel® Pentium® M 1.6GHz	
L2 Cache Memory	1MB (Embedded in CPU)	
Main Memory	DDR SDRAM (PC2700) 1GB / 2GB (SO-DIMM x 2 slots)	
Chip Set	Intel 855GME+ICH4	
Graphic Accelerator	Embedded in intel® 855GME	
Video Memory	Max 64MB (UMA type)	
Graphics	XGA (1024 x 768 pixels)	
BIOS	Phoenix® First BIOS Embedded Pro	
Touch Panel Type	Resistive Film (Analog)	
Touch Panel Resolution	1024 x 1024	
Interface — IDE	Master: 2.5-inch HDD slot x 1[*1] Slave: CF Card Slot x 1[*1]	
Interface — Serial (COM1)	RS-232C (RI / +5V changeover) Connector: D-Sub 9-pin plug	
Interface — Serial (COM2)	RS-232C (RI / +5V changeover) Connector: D-Sub 9-pin plug	
Interface — Serial (COM3)	RS-232C (RS-232C / 422 / 485 changeover) Connector: D-Sub 9-pin plug	
Interface — Serial (COM4)	RS-232C (Touch Panel and Exclusive) Connector: D-Sub 9-pin plug	
Interface — Ethernet (LAN1)	IEEE802.3u, 10 Base-T/100 Base-TX Auto change Connector: Modular Jack (RJ-45) x 1	
Interface — Ethernet (LAN2)	IIEEE802.3u, 10BASE-T / 100BASE-TX / 1000BASE-T Auto change Connector: Modular Jack (RJ-45) x 1	
Interface — USB	USB2.0 Connecter: USB Type A x 5 (T42 is only model with Front USB x 1, All models have rear ports x 4) Power Voltage: DC5V ±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m	
Interface — Mouse	——	
Interface — Keyboard	PS2, Connector: Mini DIN 6pin	
Interface — RAS	Input (usable as an external reset input): 4 points, Output: 5 points, Rated Voltage: DC12V, Maximum Rated Current: 100mA Connector: D-Sub 25-pin socket x 1	
Interface — Sound	Speaker Output, Line Input, Mic Input Connector: Mini Pin Jack x 3	
Interface — Floppy Drive	Floppy Drive	
Interface — CD/DVD-ROM Drive	DVD-ROM Drive	
Interface — PCMCIA	PC card slot, Connector compatible with CardBus (*Zoomed Video and Sound functions excluded): Type II, Type III x 2	
Interface — RGB	——	Available

*1 Can switch between master and slave according to the settings.

■ General Specifications

Model	PS3710A-T42-24V	PS3710A-TA2
International Safety Standards	UL LISTED ⓒ CE	
Comforming to Standards	UL508, CSA-C22.2, No.142-M1987, EN55011 Class A, EN61000-6-2 and EN60950-1	UL508, CSA-C22.2, No.142-M1987,EN55011 Class A, EN61000-6-2 and EN60950-1,
Power Supply — Rated Voltage	DC24V	AC100 to 240V
Power Supply — Rated Voltage Range	DC19.2 to 28.8V	AC85 to AC264V
Power Supply — Rated Frequency	——	50 / 60Hz
Power Supply — Allowable Voltage Drop	5ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)
Power Supply — Power Consumption	110W or less	150VA or less
Voltage Endurance	AC1000V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or more at DC500V (between charging and FG terminals)	
Ambient Operating Temperature	<With HDD> 5 to 45°C <Without HDD> 0 to 50°C	
Storage Temperature	-20 to +60°C	
Ambient Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: 29°C or lower)	
Storage Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: 29°C or lower)	
Pollution Degree	Pollution Degree 2	
Corrosive Gases	Free of corrosive gases	
Air Pressure Resistance (Operation Altitude)	800 to 1114hPa (2000m or lower above sea level)	
Vibration Resistance	JISB3502, IEC/EN 61131-2 compliant <With HDD> 4.9m/s2 (10 to 25Hz in X, Y, Z directions for 30 minutes) <Without HDD> Half Amplitude 3.5mm (5 to 9Hz in X, Y, Z directions 10 times for 100 minutes) Constant Acceleration 9.8m/s2 (9Hz to 150Hz in X, Y, Z directions 10 times for 100 minutes)	
Noise Immunity	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	
Electrostatic Discharge Immunity	6kV (IEC/EN61000-4-2 Level 3)	
Grounding	Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)
Ratings	Equivalent to IP65f, NEMA 4/4X/12 (for the panel-installed front area when not using the front-face USB port unit)[*2]	
External Dimensions	W395 [15.55] x H294 [11.57] x D100mm [3.94in.]	W410 [16.14] x H309 [12.7] x D100mm [3.94in.]
Weight	About 8kg (17.6lb) or less (Main unit only)	
Cooling Method	Forced Air Cooling by CPU Fan	

*2 Meets applicable testing requirements operation is not, however, guarateed in every environment.

■ Expansion Slots

Item	PS-3710A	Board size
1st slot	PCI Rev.2.2 (5V)	240 [9.45] x 106.68mm [4.20in.]
Power Supply	DC5V: 1.5A, DC12V: 0.5A, DC-12V: 0.1A, DC-3.3V: 0.5A	——

13

12.1" XGA with Rich Expression Screen Display

PS-3650A

Battery | Environmental Resistance | Compatible with WinGP | Front USB | RAS Function | Diskless | Service & Support

12.1" XGA

Celeron® M 1.3GHz

- Backup battery unit can be built-in
- Touch-panel mouse emulation
- Replaceable backlight
- Rugged aluminium body
- IP65f
- Compliant with the RoHS directive
- NEMA 4/4X/12 Rated
- WinGP option available

	Size	CPU	Supported OS	Memory	PC/AT Standard Interfaces	Power Supply	Fanless	Expansion Slots
PS-3650A	12.1" XGA	Celeron® M 1.3GHz	Windows® XP Pro XP ML	DDR 1GB	CFCard X 1 Serial X 1 Ethernet X 2 USB X 5 PCMCIA X 1	AC 100 to 240V DC24V	—	1 slot

Special Option to Build in PS-3650A (AC Power Supply)

For preventing trouble caused by blackouts!! New battery unit can be set anywhere.

PS-3650A

Fits precisely into the PC expansion unit.

103 [4.06] 5 [0.20] 227 [8.94]
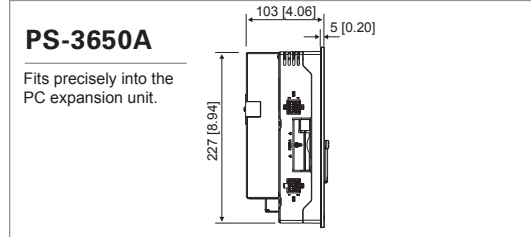
Item		Specifications
Charge current	Non-full charge Standard charge	60mA ±10%
	After full charge Trickle charge	20mA ±10%
Allowable Voltage Drop		1 second or less [*1]
Cooling Method		Natural Air Cooling
Weight		900g or less
External Dimensions [*2]		W117 [4.61] x H189 [7.44] x D20.3mm [0.80in.]

[*1] Starts each backup mode operation, going into "blackout" state after over one second of blackout.
[*2] Dimensions for battery unit only.

IMPORTANT ● This battery uses a Ni-Cd accumulator.We work hard to ensure the protection of the environment by recycling used batteries. For details, see the manual.

External Dimensions/Interfaces

Units: mm [in.]

PS-3650A

103 [4.06] 5 [0.20] 60 [2.36] 227 [8.94] 313 [12.32] 239 [9.41] 301 [11.85]

Panel Cut-Out Dimensions

Under 4-R3

301.5 [+1/0] [11.87 [+0.04/0]]

227.5 [+1/0] [8.96 [+0.04/0]]

Allowable Panel Thickness: 1.6 to 10.0

Parts Names

1. Ethernet Interface (10BASE-T/100BASE-TX Auto change)
2. Expansion Slot
3. USB Interface
4. Speaker Output Interface
5. Serial (RS-232C) Interface
6. RAS Interface
7. CF Card Slot (IDE Connection)
8. Power Connector (European Terminal)
9. System Fan
10. Front USB Interface
11. PCMCIA Interface

14

■Performance Specifications

Model	PS3650A-T41	PS3650A-T41-24V
Display Type	TFT Color LCD	
Display Size	12.1"	
Display Colors	262,144 colors	
Display Dots (Pixels)	1024 x 768 pixels (XGA)	
Backlight	CCFL (Replaceable)	
Effective Display Area	W245.76 [9.68] x H184.32mm [7.26in.]	
Brightness Control	4-level adjustment available	
Supported OS	Windows® XP Pro / Windows® XP ML	
CPU	Intel® Celeron® M 1.3GHz	
L2 Cache Memory	512KB (Embedded in CPU)	
Main Memory	DDR SDRAM (PC2700) 1GB (SO-DIMM x 1 slot)	
Chip Set	Intel® 855GME+ICH4	
Graphic Accelerator	Embedded in Intel® 855GME	
Video Memory	Max 64MB (UMA type)	
Graphics	XGA (1024 x 768 pixels)	
BIOS	Phoenix First BIOS Embedded Pro	
Touch Panel Type	Resistive Film (Analog)	
Touch Panel Resolution	1024 x 1024	
Interface — IDE	Master: 2.5-inch HDD Slot x 1[*1] Slave: CF Card Slot x 1[*1]	
Interface — Serial (COM1)	RS-232C (RI / +5V changeover) Connector: D-Sub 9-pin plug	
Interface — Ethernet (LAN)	IEEE802.3u, 10 BASE-T / 100 BASE-TX Auto change Connector: Modular Jack (RJ-45) x 2 (Bottom Slot)	
Interface — USB	USB2.0 Connecter: USB Type A x 4 (Side Slot x 4), USB1.1 Connector: USB Type A x 1 (Front Slot x 1) Power Voltage: 5VDC ±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m	
Interface — RAS	Input (usable as an external reset input): 2 points, Output: 2 points, Rated Voltage: 12VDC, Maximum Rated Current: 100mA Connector: D-Sub 9-pin socket x 1	
Interface — Sound	Speaker Output Connector: Mini Pin Jack x 1 (Bottom Slot)	
Interface — PCMCIA	PC card slot, Connector compatible with CardBus (*Zoomed Video and Sound functions excluded): Type III x 1	

*1 Can switch between master and slave according to the settings.

■General Specifications

Model	PS3650A-T41	PS3650A-T41-24V
International Safety Standards	UL LISTED CSA CE	
Comforming to Standards	UL508, CSA-C22.2, No.142-M1987, EN60950, EN55011 Class A and EN61000-6-2	
Power Supply — Rated Voltage	AC100 to 240V	DC24V
Power Supply — Rated Voltage Range	AC85 to 264V	DC19.2 to 28.8V
Power Supply — Rated Frequency	50 / 60Hz	
Power Supply — Allowable Voltage Drop	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less
Power Supply — Power Consumption	110VA or less	80W or less
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or more at DC500V (between charging and FG terminals)	
Ambient Operating Temperature	<With HDD> 5 to 50°C	<Without HDD> 0 to 50°C
Storage Temperature	-20 to +60°C	
Ambient Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower, <With HDD> 29°C or lower)	
Storage Humidity	10% to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower)	
Pollution Degree	Pollution Degree 2	
Corrosive Gases	Free of corrosive gases	
Air Pressure Resistance (Operation Altitude)	800 to 1114hPa (2000m or lower above sea level)	
Vibration Resistance	JIS B 3502, IEC/EN61131-2 compliant <With HDD> 10 to 25Hz, 4.9m/s² in X, Y, Z directions (for 30 minutes) <Without HDD> 5 to 9Hz Half Amplitude: 3.5mm, 9 to 150Hz, Constant Acceleration: 9.8m/s² in X, Y, Z directions 10 cycles (for 100 minutes)	
Noise Immunity	Noise Voltage: 1500Vp-p Pulse Duration: 50ns, 500ns, 1μs Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p Pulse Duration: 50ns, 500ns, 1μs Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	6kV (IEC/EN 61000-4-2 Level 3)	
Grounding	Protection: type D (Common to SG-FG)	Function: type D (Common to SG-FG)
Ratings	Equivalent to IP65f, NEMA 4/4X/12, (When not using Front USB) [*2]	
External Dimensions	W313 [12.32] x H239 [9.41] x D103mm [4.06in.] [*3]	
Weight	About 4.5kg (9.9lb) or less (Main unit only)	
Cooling Method	Forced Air Cooling by CPU Fan	

*2 Meets applicable testing requirements operation is not, however, guarateed in every environment.   *3 External dimensions when the battery unit is used: W313 [12.32] x H239 [9.41] x D78.6mm [3.09in.]

■Expansion Slots

Item	PS-3650A	Board size
1st slot	PCI Rev.2.2 (5V)	174.63 [6.88] x 106.68mm [4.20in.]
Power Supply	DC5V: 1.5A, DC12V: 0.5A, -DC12V: 0.1A, DC3.3V: 0.5A	

■Option Menu

Main Unit	Power Supply	CPU	Memory	Hard Drive or CompactFlash with Operating System
PS-3650A 12.1" touch panel LCD PCI 1 Slot	AC Power Supply	Celeron® M 1.3GHz	1GB	40 GB HD Windows® XP ML ver.
	DC Power Supply			*8 GB CF Card Windows® XP Pro
Base Menu		Choice Menu		

*The XP Pro OS installed in units with an 8 GB flash card supports English, French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.

Perfectly Suited for Space Saving and Diskless Operation

PS-3450A / 3000B

Environmental Resistance | Compatible with WinGP | RAS Function | Diskless | Service & Support
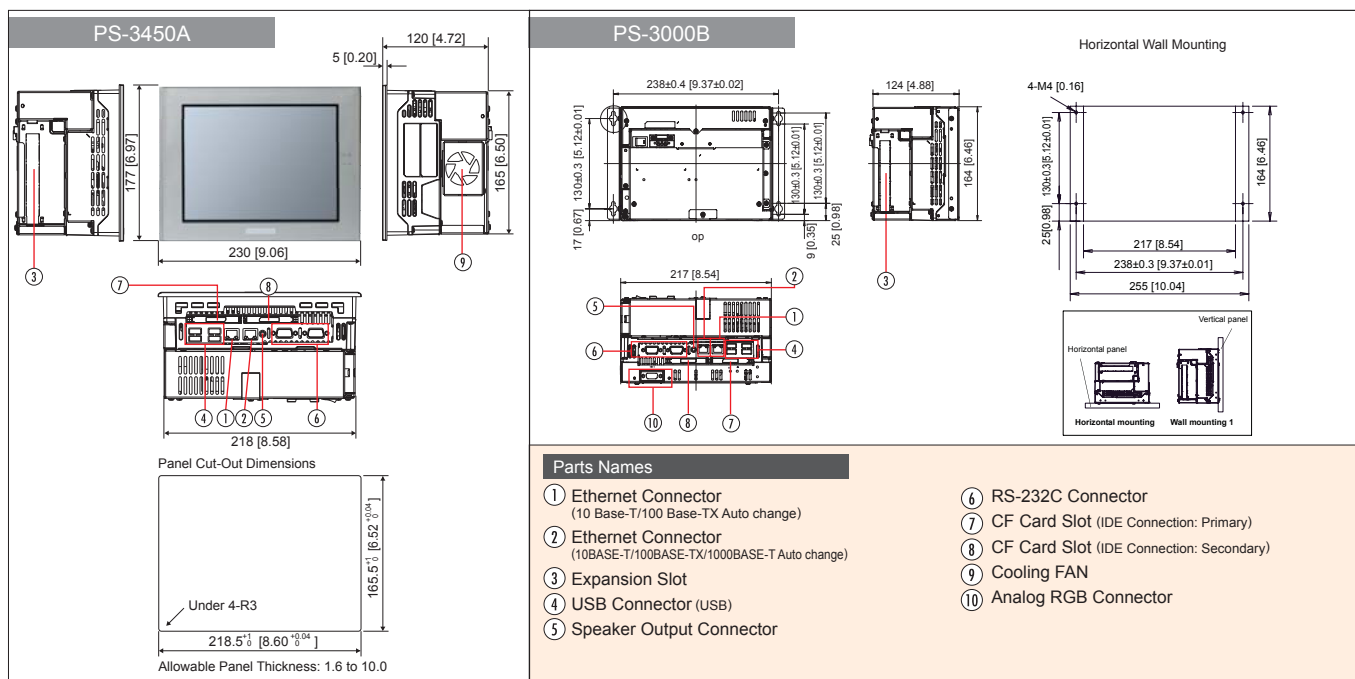
8.4" SVGA

ULV Celeron® M 1.0GHz

- Touch-panel mouse emulation(Except for PS-3000B)
- Rugged aluminium body
- IP65f (Except for PS-3000B)　● NEMA 4/4X/12 Rated (except for PS-3000B)
- Compliant with the RoHS directive　● Wake On LAN compliant
- WinGP option available

	Size	CPU	Supported OS	Memory	PC/AT Standard Interfaces	Power Supply	Fanless	Expansion Slots
PS-3450A (AC Model)	8.4" SVGA	ULV Celeron® M 1.0GHz	Windows® XP Pro XP ML	DDR 1GB	CFCard X 2 Serial X 2 Ethernet X 2 USB X 4 Analog X 1 (PS3000B only)	AC100 to 240V	—	1 slot
PS-3450A (DC Model)						DC24V		
PS-3000B	Node PC	ULV Celeron® M 1.0GHz				AC100 to 240V	—	1 slot

External Dimensions/Interfaces

Units: mm[in.]

PS-3450A

120 [4.72]　5 [0.20]　165 [6.50]　177 [6.97]　230 [9.06]　218 [8.58]

PS-3000B

238±0.4 [9.37±0.02]　124 [4.88]　17 [0.67]　130±0.3 [5.12±0.01]　130±0.3 [5.12±0.01]　130±0.3 [5.12±0.01]　164 [6.46]　9 [0.35]　25 [0.98]　op　217 [8.54]

Horizontal Wall Mounting

4-M4 [0.16]　164 [6.46]　25 [0.98]　130±0.3 [5.12±0.01]　217 [8.54]　238±0.3 [9.37±0.01]　255 [10.04]

Vertical panel
Horizontal panel
Horizontal mounting　Wall mounting 1

Panel Cut-Out Dimensions

165.5 +1 0 [6.52 +0.04 0]
Under 4-R3
218.5 +1 0 [8.60 +0.04 0]
Allowable Panel Thickness: 1.6 to 10.0

Parts Names

1. Ethernet Connector (10 Base-T/100 Base-TX Auto change)
2. Ethernet Connector (10BASE-T/100BASE-TX/1000BASE-T Auto change)
3. Expansion Slot
4. USB Connector (USB)
5. Speaker Output Connector
6. RS-232C Connector
7. CF Card Slot (IDE Connection: Primary)
8. CF Card Slot (IDE Connection: Secondary)
9. Cooling FAN
10. Analog RGB Connector

■ Performance Specifications

	PS3450A-T41	PS3450A-T41-24V	PS3000-BA
Display Type	TFT Color LCD		————
Display Size	8.4"		————
Display Colors	262,144 colors		————
Display Dots (Pixels)	800 x 600 pixels (SVGA)		————
Backlight	CFL (user-irreplaceable)		————
Effective Display Area	W172.4 [6.79] x H129.8mm [5.11in.]		————
Brightness Control	4 levels (adjustment using software)		————
Supported OS	Windows® XP Pro / XP ML		Windows® XP Pro / XP ML
CPU	Intel® ULV Celeron® M 1.0GHz	Intel® ULV Celeron® M 1.0GHz	Intel® ULV Celeron® M 1.0GHz
L2 Cache Memory		512KB (Embedded in CPU)	————
Main Memory	DDR SDRAM (PC2700) 1GB (SO-DIMM x 1 slot)		DDR SDRAM 1GB (SO-DIMM x 1 slot)
Chip Set	Intel® 855GME + ICH4		
Graphic Accelerator	Embedded in Intel 855GME		
Video Memory	Max 64MB (UMA type)		
Graphics	SVGA (800 x 600 pixels)		VGA (640 x 480 pixels) to (1920 x 1080 pixels)
BIOS	Phoenix® First BIOS Embedded Pro		
Touch Panel Type	Resistive Film (Analog)		————
Touch Panel Resolution	1024 x 1024		————
Interface — IDE	Primary Master: 2.5-inch HDD Slot x 1*1 Primary Slave and Secondary Master: CF Card Slot x 2*1		
Interface — Serial (COM1)	RS-232C Connector: D-Sub 9-pin plug		
Interface — Serial (COM2)	RS-232C (RS232C / 422 / 485 changeover RI /+5V changeover) Connector: D-Sub 9-pin plug		
Interface — Ethernet (LAN1)	IEEE802.3u, 10BASE-T / 100BASE-TX Auto change Connecter: Modular Jack (RJ-45) x 1		
Interface — Ethernet (LAN2)	IEEE802.3u, 10BASE-T / 100BASE-TX / 1000BASE-T Auto change Connecter: Modular Jack (RJ-45) x 1		
Interface — USB	USB2.0 Connecter: USB Type A x 4 Power Voltage: 5VDC ±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m		
Interface — Sound	Speaker Output Connector: Mini Pin Jack x 1		

*1 Can switch between master and slave according to the settings.

■ General Specifications

Model	PS3450A-T41	PS3450A-T41-24V	PS3000-BA
International Safety Standards	(UL) LISTED (SP) CE		(UL) LISTED c(UL) LISTED (SP) CE
Comforming to Standards	UL508, CSA-C22.2, No.142-M1987, EN55011 Class A, EN61000-6-2 and EN60950-1 (AC model only)		
Power Supply — Rated Voltage	AC100 to 240V	DC24V	AC100 to 240V
Power Supply — Rated Voltage Range	AC85 to 264V	DC19.2 to 28.8V	AC85 to 264V
Power Supply — Rated Frequency	50 / 60Hz	————	50 / 60Hz
Power Supply — Allowable Voltage Drop	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	5ms or less	Shorter than 1 cycle
Power Supply — Power Consumption	120VA or less	65W or less	120VA or less
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC500V 20mA for 1 minute (between charging and FG terminals)	AC1500V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or more at 500VDC (between charging and FG terminals)		
Ambient Operating Temperature	<With HDD> 5 to 50°C <Without HDD> 0 to 50°C		<With HDD> 5 to 50°C <Without HDD> 0 to 50°C
Storage Temperature	-20 to + 60°C		
Ambient Humidity	10 to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower, <With HDD> 29°C or lower)		
Storage Humidity	10% to 90%RH (No condensation, Wet-bulb temperature : 39°C or lower)		
Pollution Degree	Pollution Degree 2		
Corrosive Gases	Free of corrosive gases		
Air Pressure Resistance (Operation Altitude)	800 to 1114hPa (2000m or lower above sea level)		
Vibration Resistance	<without HDD> IEC/EN 61131-2 comploant 5 to 9Hz single-amplitude 3.5mm 9 to 150Hz constant-accelerated velocity 9.8m/s2 X, Y, Z directions for 10 cycle (100 minutes) <with HDD> 4.9m/s² (10 to 25Hz X, Y, Z directions for 30minutes)		
Noise Immunity	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs, Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse width: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	6kV (IEC/EN 61000-4-2 Level 3)		
Grounding	Protection: Type D (Common to SG-FG)	Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)
Ratings	Equivalent to IP65f, NEMA 4/4X/12, (When not using Front USB) *2		————
External Dimensions	W230 [9.06] x H177 [6.97] x D120mm [4.72in.]		W255 [10.04] x H164 [6.46] x D124mm [4.88in]
Weight	About 4.0kg (8.8lb) or less (Main unit only)		Approx. 3.0kg (6.6lb)max.(unit only)
Cooling Method	Forced Air Cooling by CPU Fan		Forced Air Cooling by CPU Fan

■ Expansion Slots

Item	PS-3450A	Board size		PS-3000-BA	Board size
1st slot	PCI Rev.2.2 (5V)	174.63 [6.88] x 106.68mm [4.20in]		PCI	106.68 [4.20] x 174.63mm [6.88in]
Power Supply	DC5V: 1.0A, DC12V: 0.25A, DC-12V: 0.1A, DC3.3V: 0.5A	————		DC5V: 1.0A, DC12V: 0.25A, DC-12V: 0.1A, DC3.3V: 0.5A	————

■ Option Menu

Main Unit	Power Supply	CPU	Memory	Hard Drive or CompactFlash with Operating System
PS-3450A 8.4" touch panel LCD PCI 1 Slot	AC Power Supply	ULV® Celeron M 1.0 GHz	1GB	40 GB HD Windows® XP ML ver.
	DC Power Supply			*8 GB CF Card Windows® XP Pro
PS-3000B	AC Power Supply	ULV® Celeron M 1.0 GHz	1GB	40 GB HD Windows® XP ML ver.
				*8 GB CF Card Windows® XP Pro

⟵ Base Menu ⟶   ⟵ Choice Menu ⟶

*The XP Pro OS installed in units with an 8 GB flash card supports English, French, Spanish, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese languages.

High Visibility Plus Maintenance Efficacy

FP-3900T / 3710T / 3650T / 3600T / 3500T / 3710K

Environmental Resistance · Front USB · Keypad Type · Service & Support

19" SXGA | **15" XGA**

12.1" SVGA | **10.4" VGA**

- Touch-panel mouse emulation
- VESA standard compliance back cover
  (FP-3650T/FP-3600T/FP-3500T Optional)
- IP65f ● Compliant with the RoHS directive
- NEMA 4/4x/12 rated front face

	Size	Graphics	DVI	Analog RGB	Display Colors	Power Supply	USB I/F	Backlight Replacement	Housing
FP-3900T	19"	SXGA			16,777,216 colors	AC 100 to 240V	USB x 1 (Front Slot)*1	—	Rugged aluminium body
FP-3710T	15"	XGA							
FP-3650T	12.1"		○	○	262,144 colors	DC24V AC100 to 240V	USB x 1 (Bottom Slot)	○	Resin
FP-3600T		SVGA							
FP-3500T	10.4"	VGA				DC24V AC100 to 240V			
FP-3710K	15"	XGA			16,777,216 colors	AC100 to 240V	USB x 1 (Front Slot)		Rugged aluminium body

*1 Non front USB type is also available.

External Dimensions/Interfaces

Units: mm[in.]

FP-3900T (Front USB Type)

Panel Cut-Out Dimensions

Under 4-R3

352.5^{+1}_{0} [$13.88^{+0.04}_{0}$]

419.5^{+1}_{0} [$16.52^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

460 [18.11] · 12.7 [0.50] · 77.7 [3.06] · 390 [15.35] · 352 [13.86] · 419 [16.50]

FP-3710T (Front USB Type)

Panel Cut-Out Dimensions

Under 4-R3

282.5^{+1}_{0} [$11.12^{+0.04}_{0}$]

383.5^{+1}_{0} [$15.10^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

395 [15.55] · 5 [0.20] · 60 [2.36] · 294 [11.57] · 282 [11.10] · 383 [15.08]

FP-3650T / FP-3600T / FP-3500T

The from photo is for FS-36**

Panel Cut-Out Dimensions

Under 4-R3

227.5^{+1}_{0} [$8.96^{+0.04}_{0}$]

301.5^{+1}_{0} [$11.87^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

317 [13.48] · 8 [0.31] · 58 [2.28] · 243 [9.57] · 227 [8.94] · 301 [11.85]

FP-3710K

Panel Cut-Out Dimensions

Under 4-R3

313.5^{+1}_{0} [$12.34^{+0.04}_{0}$]

441.5^{+1}_{0} [$17.38^{+0.04}_{0}$]

Allowable Panel Thickness: 1.6 to 10.0

488 [19.21] · 10 [0.39] · 63 [2.48] · 367 [14.45] · 313 [12.32] · 441 [17.36]

Parts Names	
① DVI-D I/F Interface	④ USB Interface (Type B)	⑦ Power Connector (European Terminal)
② Analog RGB Interface	⑤ RS-232C Interface	⑧ Front USB Interface (Type A)
③ USB Interface (Type A)	⑥ Setting Switch (Slide switch)	

FP-3900T / 3710T / 3650T / 3600T / 3500T / 3710K

■ Performance Specifications

Model	FP3900-T41-U	FP3900-T41	FP3710-T41-U	FP3710-T41	FP3650-T41	FP3600-T11	FP3600-T41-24V	FP3500-T11	FP3500-T41-24V	FP3710-K41-U
Display Type	TFT Color LCD									
Display Size	19"		15"			12.1"		10.4"		15"
Display Colors	16,777,216 colors					262,144 colors				16,777,216 colors
Display Dots (Pixels)	1280 x 1024 pixels (SXGA)		1024 x 768 pixels (XGA)			800 x 600 pixels (SVGA)		640 x 480 pixels (VGA)		1024 x 768 pixels (XGA)
Backlight	CCFL (Backlight replacement : Sendback system)		CCFL (Replaceable)							
Effective Display Area	W376.32 [14.82] x H301.056mm [11.85in.]		W304.1 [11.97] x H228.1mm [8.98in.]		W245.76 [9.86] x H184.32mm [7.26in.]	W248.0 [9.76] x H186.5mm [7.34in.]		W211.2 [8.31] x H158.4mm [6.24in.]		W304.1 [11.97] x H228.1mm [8.98in.]
Brightness Control	Adjustment available via OSD									
Graphics	SXGA (1280 x 1024 pixels)		XGA (1024 x 768 pixels)			SVGA (800 x 600 pixels)		VGA (640 x 480 pixels)		XGA (1024 x 768 pixels)
Touch Panel Type	Resistive Film (Analog)									
Touch Panel Resolution	1024 x 1024									
Touch Panel Interface	RS-232C or USB2.0 (Type B)									
Number of Key Switches										74
Key Switch Type										Membrane Switch
Interface — USB[1]	USB2.0 Connector: USB Type A x 1 Power Voltage: 5VDC±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m	—	USB2.0 Connector: USB Type A x 1 Power Voltage: 5VDC±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m	—	USB2.0[2] Connector: USB Type A x 1 Power Voltage: 5VDC±5%, Output Current: 500mA (Max), Maximum Communication Distance: 5m					USB2.0 Connector: USB Type A x 1 Power Voltage: 5VDC±5%, Output Current: 500mA (Max), Maximum Communication Distance : 5m
Interface — Video			DVI-D Input[3] Connector: DVI-I 24-pin socket[3]			Analog RGB Input[3] Connector: D-SUB Shrink 15-pin socket[3]				

*1 A USB device can be connected using the USB-HUB function. Connect the touch panel USB cable (Type B) to the host.   *2 A USB port can be set on the panel using a USB front cable (option).   *3 Either one of them is used.

■ General Specifications

Model	FP3900-T41-U	FP3900-T41	FP3710-T41-U	FP3710-T41	FP3650-T41	FP3600-T11	FP3600-T41-24V	FP3500-T11	FP3500-T41-24V	FP3710-K41-U
International Safety Standards	UL ⓤ ⓢ CE				CE ⓤ ⓤ	—	UL ⓤ ⓢ CE	—	UL ⓤ ⓢ CE	UL ⓤ CE
Comforming to Standards	UL508, CSA-C22.2, No.142-M1987, EN55011 Class A, EN61000-6-2 and EN60950-1 First Edition				UL60950-1(First Edition), CSA-C22.2, No.60950-1-03, EN55011 Class A and EN61000-6-2		UL508, CSA-C22.2, No.142-M1987, EN55011 Class A and EN61000-6-2		UL508, CSA-C22.2, No.142-M1987, EN55011 Class A and EN61000-6-2	UL508, CSA-C22.2, No.142-M1987, EN55011 Class A, EN61000-6-2 and EN60950-1 First Edition
Power Supply — Rated Voltage	AC100 to 240V						DC24V	AC100 to 240V	DC24V	AC100 to 240V
Power Supply — Power Consumption	AC100V at 1.1A or less AC240V at 0.7A or less				AC100V at 0.9A or less AC240V at 0.45A or less		2.08A or less	AC100V at 0.9A or less AC240V at 0.45A or less	2.08A or less	AC100V at 1.1A or less AC240V at 0.7A or less
Power Supply — Allowable Voltage Drop	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)						10ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)	10ms or less	Shorter than 1 cycle (Note that pause occurrences must be more than 1 second apart)
Voltage Endurance	AC1500V at 20mA for 1 minute (between the charging and grounding (FG) terminals)						AC1000V at 20mA for 1 minute (between charging and FG terminals)	AC1000V at 20mA for 1 minute (between charging and FG terminals)	AC1000V at 20mA for 1 minute (between charging and FG terminals)	AC1000V at 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or more at DC500V (between charging and FG terminals)									
Ambient Operating Temperature	0°C to 50°C (within 30°C from the installing angle vertical direction)									
Storage Temperature	-20 to +60°C									
Ambient Humidity	10% to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower)									
Storage Humidity	10% to 90%RH (No condensation, Wet-bulb temperature: 39°C or lower)									
Corrosive Gases	Free of corrosive gases									
Vibration Resistance	JIS B3502, IEC/EN 61131-2 compliant 5 to 9Hz Half Amplitude: 3.5mm 9 to 150Hz Constant Acceleration: 9.8m/s² in X, Y, Z directions 10 cycles (for 100 minutes)									
Noise Immunity	Noise Voltage: 1500Vp-p, Pulse Duration: 50ns, 500ns, 1μs, Rise Time: 1ns (via noise simulator)					Noise Voltage: 1000Vp-p, Pulse Duration: 1μs Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1μs Rise Time: 1ns (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration: 1μs Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1μs Rise Time: 1ns (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1μs Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	6kV (IEC/EN 61000-4-2 Level 3)									
Grounding	Protection: Type D (Common to SG-FG)						Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)	Function: Type D (Common to SG-FG)	Protection: Type D (Common to SG-FG)
Ratings	Equivalent to IP65f, NEMA 4/4X/12, (When not using Front USB)[4]									
External Dimensions	W460 [18.11] x H390 [15.35] x D77.7mm [3.06in.]		W395 [15.55] x H294 [11.57] x D60mm [2.36in.]		W317 [12.48] x H243 [9.57] x D58mm [2.28in.]					W488 [19.21] x H367 [14.45] x D63mm [2.48in.]
Weight	About 10.0kg (22.0lb) or less (Main unit only)		About 7.0kg (15.4lb) or less (Main unit only)		About 3.5kg (7.7lb) or less (Main unit only)					About 8.0kg (17.6lb) or less (Main unit only)

*4 Meets applicable testing requirements operation is not, however, guarateed in every environment.

■ Interface Specifications

Input Signal Type	DVI-D	Analog RGB
Input Signal Characteristic	DVI-D	Image Signal: Analog RGB Synchronous Signal: TTL level, negative true or positive true Scanning Mode: Non-interlaced
Screen Adjustment Function (Setting via OSD)	Contrast, Brightness, Sharpness, Dimmer, Default (All Reset)	Contrast, Brightness, H-Pos, V-Pos, H-Position, Phase, Dimmer, Sharpness, Auto Adjustment (Display Position, Contrast, Brightness), Default (All Reset)

Lineup · APL3000 SERIES · PS3000 SERIES · FP3000 SERIES · Option · WinGP · Pro-face Approach

Optional Items List

■Software

Product Name	Model	Description
GP-Pro EX Ver.2.2	EX-ED-V22	Screen-creation software
GP-Pro EX Editor License	EX-ED-LICENSE-V22	License for GP-Pro EX Development Environment *1
Pro-Server EX Ver.1.2 Developer	EX-SDV-V12	License for date collection and transfer by connecting an IPC to a PC via the Ethernet *2
Pro-Server EX Ver.1.2 Developer License	EX-SED-LICENSE	License for Pro-Server EX Development Environment *3
Pro-Server EX Ver.1.2 Runtime License	EX-SRT-LICENSE	License for Pro-Server EX Runtime *4
MES Action License	EX-MES-LICENSE-V10	License key to connect Pro-Server EX and database

*1 Purchase this product when installing GP-Pro EX in a second or subsequent PC. One license is required for each PC. *2 Includes the settings editor and Runtime.
*3 Purchase this product when installing the settings editor and Runtime in a second or subsequent PC. *4 Purchase this license when installing Runtime only in a second or subsequent PC.
One license is required for each PC.

■APL3000 SERIES

	Product Name		Model	APL-3900T	APL-3700T	APL-3600T	APL-3700K	APL-3600K	APL-3000B
Accessory Options	DIM Module DDR	512MB	CA7-DDR2-512MB-01	●	●	●	●	●	●
		1GB	CA7-DDR2-1GB-01	●	●	●	●	●	●
		2GB	CA7-DDR2-2GB-01	●	●	●	●	●	●
	RAID Kit		RAID-KIT-01	●	●	●	●	●	●
	HDD Unit *1	60GB	APL3000-HD60	●	●	●	●	●	●
	CF Card	1GB	CA6-CFCALL/1GB-01	●	●	●	●	●	●
		2GB	CA8-CFCALL/2GB-01	●	●	●	●	●	●
		8GB	144766	●	●	●	●	●	●
	USB Front Cable	1m	CA5-USBEXT-01	●	●	●	●	●	●
	USB Cable	5m	FP-US00	●	●	●	●	●	●
	RS-232C Cable	5m	FP61V-IS00-O	●	●	●	●	●	●
	DVI Cable	5m	FP-DV01-50	●	●	●	●	●	●
		10m	FP-DV01-100						●
	Analog RGB Cable *2	4.5m	FP-CV02-45	●	●	●	●	●	●
	DVI-D/RGB Conversion Cable	5cm	CA7-CBLCVRGB-01	●	●	●	●	●	●
	DVI-D/RGB Branch Cable	15cm	CA7-CBLCVDVI-D/RGB-01	●*4	●*4	●*4	●*4	●*4	●
	Screen Protection Sheet (5 Sheets/set)	For 12.1" screen	CA7-DFS12-01		●		●		●
		For 15" screen	CA3-DFS15-01		●		●		
		For 19" screen	CA7-DFS19-01	●					
	External USB Floppy		9000-USBF	●	●	●	●	●	●
Maintenance Options*3	AC Power Connector (Right angle) (5/set)		CA7-ACCNLR-01	●	●	●	●	●	●
	APL3700T cutout adapter kit	For 4715T cutout	145053 (for 4715T cutout)		●				
	Installation Gasket	For 12.1" screen	CA7-WPG12-01		●				
		For 15" screen	CA7-WPG15-01		●			●	
		For 15" keypad screen	CA7-WPG15K-01				●		
		For 19" screen	CA7-WPG19-01	●					
	Backlight	For 12.1" screen	CA3-BLU12-01			●		●	
		For 15" Screen	CA3-BLU15-01		●		●		
	Installation Fastener		APL-ATFB-01						●
			CA3-ATFALL-01	●	●	●	●	●	
	AC Power Connector (Straight) (5/set)		CA7-ACCNL-01	●	●	●	●	●	●
	DC Power Connector (Right angle) (5/set)		CA5-DCCNL-01	●	●	●	●	●	●

*1 The operating system has not been installed. *2 Use when using the DVI-D/RGB Branch Cable
*3 Standard attachment for all models. Order for replacement when they are damaged or lost. *4 RGB signal only

■PS3000 SERIES (PS-3710A)

	Product Name		Model	PS-3710A
Accessory Options	DIM Module DDR	1GB	PSA-DDR1G	●
	HDD Unit *1	40GB	PS365XA-HD40	●
		60GB	PS371XA-HD60P	●
	CF Card	512MB	CA3-CFCALL/512MB-01	●
		1GB	CA6-CFCALL/1GB-01	●
		2GB	CA8-CFCALL/2GB-01	●
		8GB	144766	●
	AC Analog RGB Cable	for TA2 model	FP-CV02-45	●
	USB Front Cable	1m	CA5-USBEXT-01	●
	Screen Protection Sheet (5 Sheets/set)		CA3-DFS15-01	●
Maintenance Options*2	Installation Gasket	for T41 and TA2	CA3-WPG15-01-PA1 (For PS3710A-T41/TA2 models)	●
		for T42 model	CA3-WPG15-01	●
	Backlight	for T41 model	CA3-BLU15-01 (For PS3710A-T41 models)	●
		for T42 and TA2	CA7-BLU15-01 (For PS3710A-T42/TA2 models)	●
	Installation Fastener		CA3-ATFALL-01	●
	AC Power Connector (Straight) (5/set)		CA7-ACCNL-01	●
	DC Power Connector (Straight) (5/set)		CA7-DCCNL-01	●

*1 The operating system has not been installed. *2 Standard attachments for all models. Order for replacements when those items are damaged or lost.

Lineup
APL3000 SERIES
PS3000 SERIES
FP3000 SERIES
Option
WinGP
Pro-face Approach

Industrial Personal Computer **Option**

■PS3000 SERIES (PS-3650A)

Product Name		Model	PS-3650A
Accessory Options — DIM Module DDR	1GB	PSA-DDR1G	●
HDD Unit *1	40GB	PS365XA-HD40	●
CF Card	512MB	CA3-CFCALL/512MB-01	●
	1GB	CA6-CFCALL/1GB-01	●
	2GB	CA8-CFCALL/2GB-01	●
	8GB	144766	●
RS-232C/485 Conversion Unit		PL-RC500	●
USB Front Cable	1m	CA5-USBEXT-01	●
Maintenance Options*2 — Screen Protection Sheet (5 Sheets/set)		CA5-DFS10-01	●
Installation Gasket		CA3-WPG12-01	●
Backlight		CA5-BLU12XGA-01	●
Installation Fastener		CA3-ATFALL-01	●
AC Power Connector (Straight) (5/set)		CA7-ACCNL-01	●
DC Power Connector (Straight) (5/set)		CA7-DCCNL-01	●

*1 The operating system has not been installed. *2 Standard attachment for all models. Order for replacement when they are damaged or lost.

■PS3000 SERIES (PS-3450A/3000B)

Product Name		Model	PS-3450A	PS-3000B
Accessory Options — DIM Module DDR	1GB	PSA-DDR1G	●	●
HDD Unit *1	40GB	PS345XA-HD40	●	●
CF Card	512MB	CA3-CFCALL/512MB-01	●	●
	1GB	CA6-CFCALL/1GB-01	●	●
	2GB	CA8-CFCALL/2GB-01	●	●
	8GB	144766	●	●
USB Front Cable	1m	CA5-USBEXT-01	●	●
Analog RGB Cable	4.5m	FP-CV02-45		●
Screen Protection Sheet (5 Sheets/set)		CA7-DFS8-01	●	
Installation Gasket		CA7-WPG8-01	●	
Maintenance Options*2 — Backlight		CA7-BLU8-01	●	
Installation Fastener		CA3-ATFALL-01	●	
		PS3000-ATFB-01		●
AC Power Connector (Straight) (5/set)		CA7-ACCNL-01	●	●
DC Power Connector (Straight) (5/set)		CA7-DCCNL-01	●	

*1 The operating system has not been installed. *2 Standard attachment for all models. Order for replacement when they are damaged or lost.

■FP3000 SERIES

Product Name		Model	FP-3900T	FP-3710T	FP-3650T	FP-3600T	FP-3500T	FP-3710K
Accessory Options — Serial Interface Cable	5m	FP61V-IS00-O	●	●	●	●	●	●
USB Cable *1	5m	FP-US00	●	●	●	●	●	●
USB Front Cable	1m	CA5-USBEXT-01			●	●	●	
Analog RGB Cable	4.5m	FP-CV02-45	●	●	●	●	●	●
DVI-D/RGB Branch Cable	5m	CA-CBLCVRGB-01	●	●	●	●	●	●
DVI-D Cable	5m	FP-DV01-50	●	●	●	●	●	●
	10m *2	FP-DV01-100	●*3	●*3	●*3			●*3
Unit Cover	For 15" screen	CA4-CVR15-01	●					
Desktop Stand *4		CA1-STDLRG-01				●	●	●
Wall-mounting Adapter *4		CA1-WMALRG-01				●	●	●
Rear Cover		CA1-RCVLRG-01				●	●	●
Screen Protection Sheet (5 Sheets/Set)	For 10.4" 12.1" screen	PSL-DF00				●	●	●
	For 15" screen	CA3-DFS15-01		●				●
	For 19" screen	CA7-DFS19-01	●					
Maintenance Options*5 — Installation Gasket	For 10.4" 12.1" screen	GP570-WP10-MS			●	●	●	
	For 15" screen	CA3-WPG15-01		●				
	For 15" keypad screen	CA7-WGP15K-01						●
	For 19" screen	CA7-WPG19-01	●					
Backlight	For 10.4" screen*6	GP577RT-BL00-MS					●	
	For 12.1" screen (SVGA)*7	CA3-BLU12-01		●				
	For 12.1" screen (XGA)*7	CA5-BLU12XGA-01			●			
	For 15" screen*6	CA3-BLU15-01		●				
	For 15" keypad screen	CA7-BLU15-01						●
Installation Fastener		GP070-AT01			●	●	●	
		CA3-ATFALL-01	●	●				●
AC Power Connector		CA7-ACCNL-01	●	●				●
DC Power Connector		CA7-DCCNL-01				●	●	

*1 Compatible only with Windows® 2000 and Windows® XP. *2 Available when the touch panel communication with the host PC is connected via USB.
*3 Available only when connected using buit-in PC with XGA fixed. (You need to change the settings on the built-in PC side.) *4 Rear Cover (CA1-RCVLRG-01) is required.
*5 Standard attachment for all models. Order for replacement when they are damaged or lost. *6 2/set *7 1/set

Lineup · APL3000 SERIES · PS3000 SERIES · FP3000 SERIES · **Option** · WinGP · Pro-face Approach

21

Integration of Open and Dedicated HMI Platforms

Trends Toward HMI Standardization

Pro-face's multi-platform GP-Pro EX HMI Software creates a user interface for Industrial PCs based on the "WinGP" runtime engine. Furthermore, it enables establishment of a common HMI platform, and facilitates addition of the manufacturer's original functions. Users can therefore expand system configuration by taking advantage of the expandability of a general-purpose OS, as well as compatibility with general-purpose applications.

PC

Control Device

GP-Pro EX

WinGP

IPC
(Industrial Personal Computer)

AGP
(Graphic Operator Interface)

Office

Trend Graph
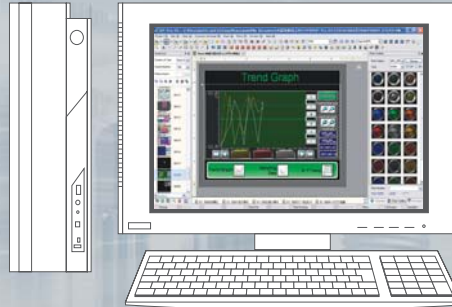
Reduction in the Number of Design Steps Results in Time (Cost) Saving!

Screen Data

PC

GP-Pro EX
HMI Development Software

Using WinGP, Pro-face industrial computers can apply screen data created using GP-Pro EX.

Individual functions can be selected at a glance using the icons

Created screens can be visually selected using the thumbnail view.
A screen call menu can be displayed.
If you activate the screen call function while creating a screen, the called screen is moved below, and displayed as a thumbnail.

The edition screen provides a user-interface that adopts many mainstream tabs.
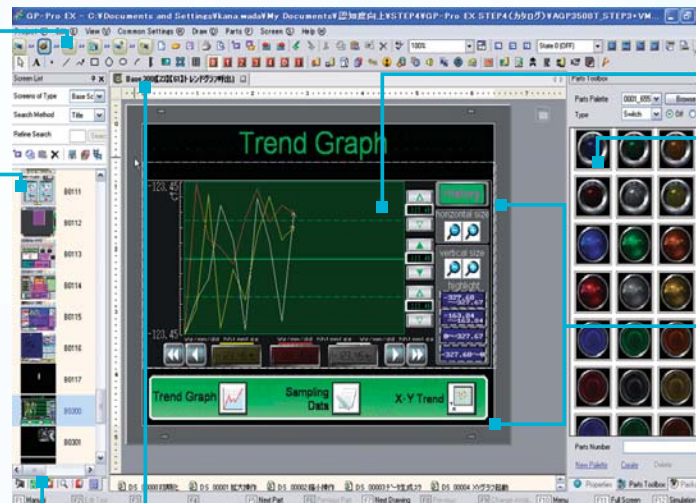
Various graphs such as trend graphs can be placed on the screen.

The parts selection window shows a list of available parts.

Once headers and footers for frequent use are registered above/below the screen creation area, they can be called into a project anytime.

Lineup | APL3000 SERIES | PS3000 SERIES | FP3000 SERIES | Option | WinGP | Pro-face Approach

HMI Software Data is Applicable to Windows®PCs

GP-Pro EX screen data, which is conventionally available only with a Graphic Operator Interface including AGP3000, can be used even with Windows machines. Thus, a common software platform can be used.

Seamless Communication with the Control Device

Communication drivers are installed as a standard feature. Development of additional drivers for control devices such as PLC and temperature controller is not required.

Facilitating System Space-Saving

A system conventionally operated by combinations of a PC, Graphic Operator Interface and PLC can be operated simply with an industrial computer and PLC.

Seamless Link to User Application

With the dedicated API, WinGP provides a flexible link to user-prepared PC applications.

Factory

Use of Common Screen Data

AGP
(Graphic Operator Interface)

PLC

Controller

Programless Communication

PLC

IPC
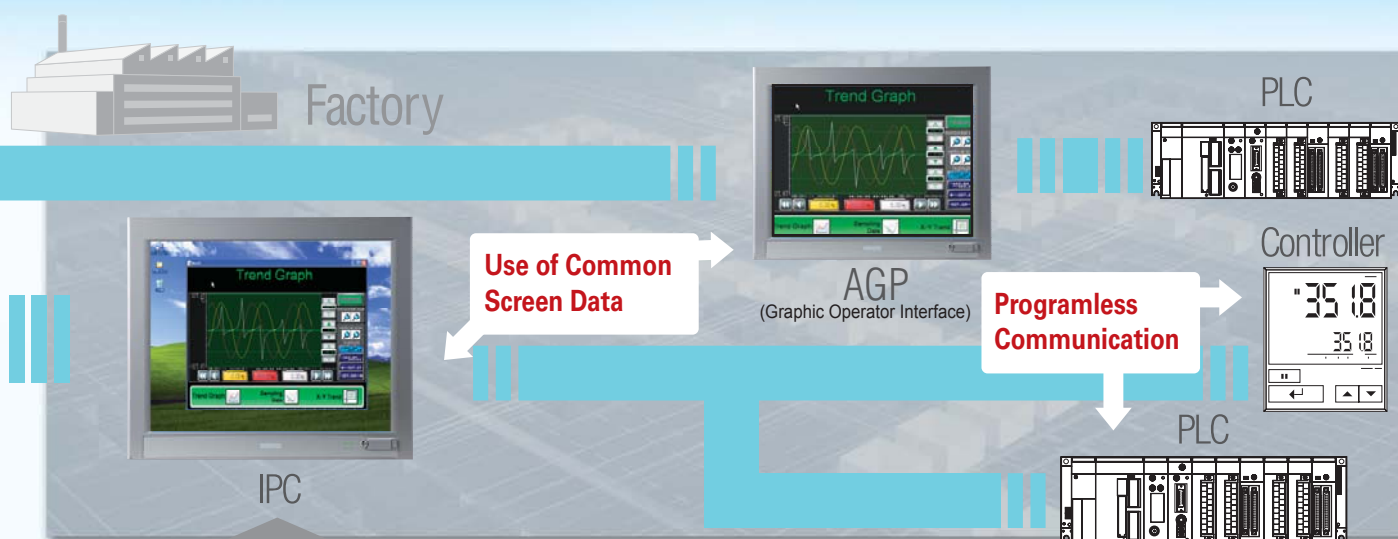
Use of Common HMI Software

GP-Pro EX software can be applied to both the Graphic Operator Interface display and panel computer. Hardware-dependent screen development is not required.

Space-saving

From "Programmable Display + PLC + PC" to "Industrial Panel Computer + PLC"

Conventional system	Industrial Panel Computer + WinGP
PC Graphic Operator Interface	Industrial Panel Computer
PLC	PLC
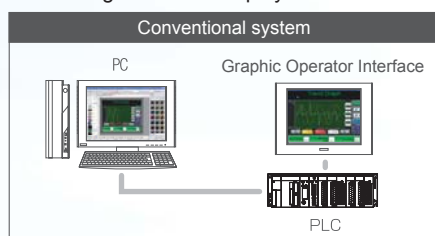
Link to PC Application via Dedicated API

■Link to User Database using the Handling API

Enables WinGP status acquisition and setup change from user application.(Provided as the DLL file)

■Control via User Applications using the Device Address API

Enables device read/write operations for WinGP communication target equipment via user application.(Provided as the DLL file)

Supported Languages
·Visual C++　·Visual Basic　·C#、　·VB.NET　·Excel　·VBA

# No Need to Develop an Additional Communication Driver

Communication drivers for control devices such as the PLC and controller are pre-installed as standard. Purchase or development of an additional communication driver is not required.

Taking advantage of expandability of a general-purpose OS, such as abundant peripheral equipment and large-volume memory, WinGP enables diversified system configuration specific to the IPC.

Reliability
Availability   Serviceability

Lineup

APL3000 SERIES

PS3000 SERIES

FP3000 SERIES

Option

WinGP

Pro-face Approach

23

New Technologies "Exclusive to Pro-face" and Supporting State-of-the-art Manufacturing

Data Management Software

Automatically collect production information in real-time remotely.
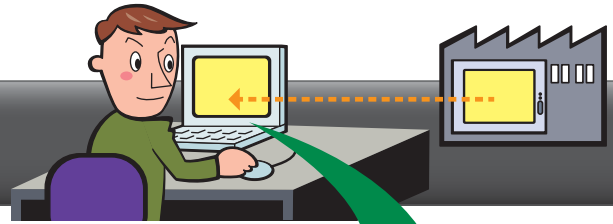
Use Pro-Server EX to collect production information at sites, and utilize it as information data.

Helpful to grasp situations from a remote site for product instructions. You can easily create daily or monthly reports by directly printing out the data at manufacturing sites.
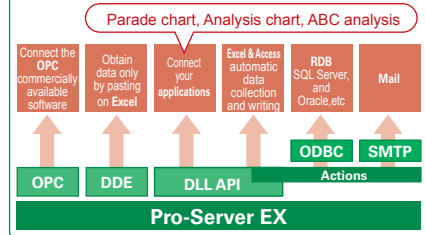
More convenient through the combination with Pro-Server EX!

Data Utilization in Various Applications

Parade chart, Analysis chart, ABC analysis

Connect the **OPC** commercially available software	Obtain data only by pasting on **Excel**	Connect your **applications**	**Excel & Access** automatic data collection and writing	**RDB** SQL Server, and Oracle,etc	**Mail**

				ODBC	SMTP
OPC	DDE	DLL API		Actions	

Pro-Server EX

Remote RAS Function	WinGP

Various remote environments can be constructed using API-DLL.

| **Remote Monitor**	Remote monitor of the terminals at a manufacturing site from the office
Remote Boot	Regular rebooting at a preset time to keep the stability of OS or applications
Remote Shutdown	Shut down the OS in unison from a remote office.
Remote Reboot	Start multiple IPCs in unison from an office at the beginning of operation. Start reservation is also available.

Built-in WinGP units have been registered as nodes. This enables data collection, delivery, or data transfer between the AGP and IPC via the network.

Pro·Server

PC

Remote monitoring is also available.

AGP

Diskless
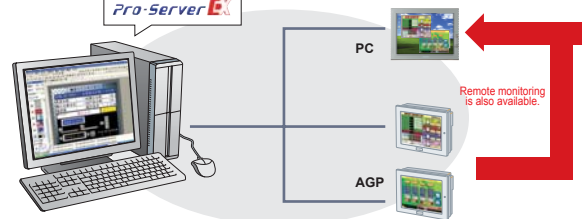
Worried about data crashes and downtime due to vibration or shock?
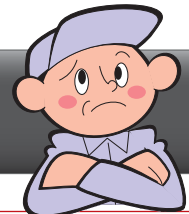
The Windows® XP supported CF card helps you achieve excellent resistance to both impact and vibration without a HDD.
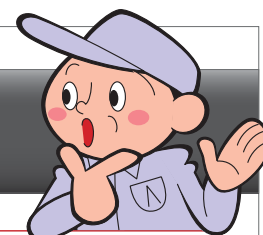
8GB CompactFlash Version Available for Windows® XP!

● **Supports 7 Languages**
Supports English, Spanish, French, Brazilian Portuguese, Japanese, Simplified and Traditional Chinese.

Pro·face CF Card DIGITAL

24

Reliability
R
A S
Availability Serviceability

Lineup

APL3000 SERIES

PS3000 SERIES

FP3000 SERIES

Option

WinGP

Pro-face Approach

RAS Function

RAS prevents costly system crashes and downtime.

Pro-face IPC Innovative Instant Alert Feature (RAS) Reliability, Accessability, Serviceability. A Powerful Built-in Health Monitoring System provides early warning of system failure.

| Alarm symptom monitor | ▶ | Warning cause display | ▶ | **Actions** •Maintenance (Parts replacement, repair, etc.) | ▶ | More effective in reducing the number of maintenance process and avoiding loss compared to detection and recovery after occurrence of an alarm. |

| **System Monitor** | Utility to monitor various situations residing on the task bar tool which provides various support regarding the RAS function. Free download from Otasuke Pro!(http://www.Pro-face.com/otasuke/) |

S•M•A•R•T Function

Monitoring HDD status, this function warns of and logs a HDD failure signal. (Included in the system monitor.)

ERROR Status.

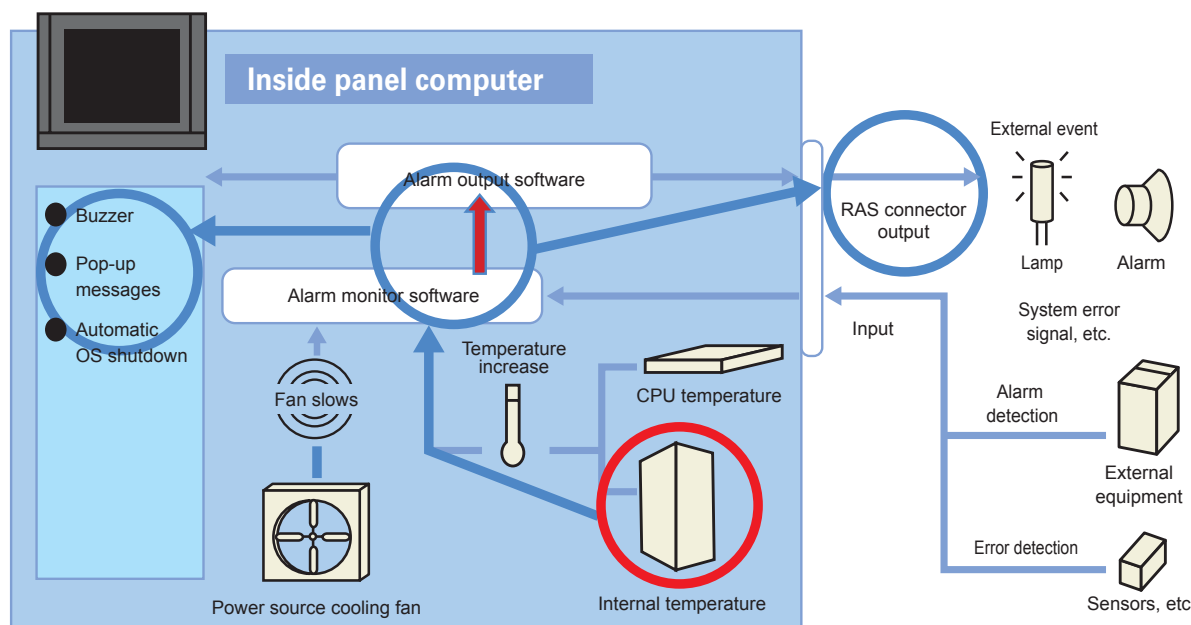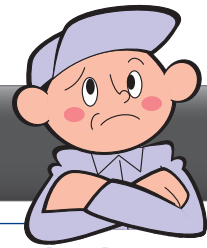| Alarm monitor | · Power voltage alarm, Internal temperature alarm · Cooling fan speed alarm · Watch dog timer time up · Touch panel alarm (Orange LED lit) · Blackout of backlight detection function · Soft mirror alarm · SMART alarm |
External input signal	· General purpose signal input · Remote reset input
External output signal	· General purpose output signal · Alarm output; Lamp output
Various processing functions	· LED indicator · Popup message output · Buzzer output · System shutdown · System reset

For example, Internal Temperature Increases!!

Inside panel computer

Alarm output software

- Buzzer
- Pop-up messages
- Automatic OS shutdown

Alarm monitor software

Fan slows

Temperature increase

CPU temperature

Power source cooling fan

Internal temperature

RAS connector output

External event

Lamp Alarm

Input

System error signal, etc.

Alarm detection

External equipment

Error detection

Sensors, etc

Reliability and Operability "Exclusive to Pro-face"

Lineup

APL3000 SERIES

PS3000 SERIES

FP3000 SERIES

Option

WinGP

Pro-face Approach

Battery

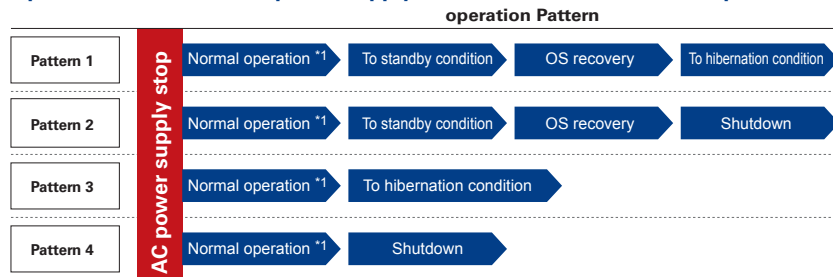## Avoid data loss from sudden blackouts.

Data can be protected from damage caused by blackout or voltage reduction, thanks to the power supplied by the battery unit.

Automatic shut down through software processing.

When the system detects a blackout, our computer automatically shifts to standby/ hibernation/shutdown of Windows® in 4 patterns.
For this function, you can feel secure about the safety of precious data, even after a sudden blackout or temporary voltage reduction.
● Supported Model: PS-3650 (AC power supply model)

Operation in case that AC power supply has been cut in normal start-up conditions

operation Pattern

Pattern 1	Normal operation *1	To standby condition	OS recovery	To hibernation condition
Pattern 2	Normal operation *1	To standby condition	OS recovery	Shutdown
Pattern 3	Normal operation *1	To hibernation condition		
Pattern 4	Normal operation *1	Shutdown		

AC power supply stop

Note: Battery operation time could vary depending on the environment and specifications.

Features

● With a compact backup unit incorporated in the main unit (For BTO exclusive use option).
● With the automatic status shift function after blackout detection.

● Monitors the remaining amount, temperature, and status (charge/discharge) of the battery.
● Contains a function to notify the the user of the time to replace the battery.

*1 Settable time: 0 to 60 sec.

Mirror Software

Enhance the safety of Hard Drive Data.

Don't worry if some accident should happen during Operation.

Because... With the mirroring function to write data to 2 HDDs simultaneously, even if the one unit crashes, lost data can be recovered from the other.

Furthermore, APL3000 Series... Can perform other operations in parallel because the CPU is under less load during rebuilding.

HDD Cartridge

Easily replace hard drives.

Simple replacement requiring only a cartridge change.

Has adopted the cartridge disk system requiring only a hard disk drive change.

Furthermore, APL3000 Series...

Hot-swappable
The unit can be replaced without stopping the device even with power turned ON.

* Available only when mirror utility software is used in parallel.

Front USB

Easily connect to a peripheral device.

Easy Maintenance

Without opening the operation panel, a USB storage device or keyboard can be connected to the unit, which actualizes simple inspection and maintenance.
Also, double security protection is available because you can set whether to use a USB port installed by using a thread-attached front USB fastener and DIP switch.

* A USB port can be installed using the optional USB front cable (CA5-USBEXT-01) on the panel even for the non front USB type.

Environmental Resistance

Strong even in harsh environments

An IP65f rated overlay (front sheet) protects the panel from oil mists, water droplets, dust, etc. Also, excellent in terms of performance, such as with resistance to vibration and high temperature operation.

Water droplets

Oil mist
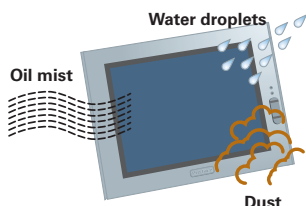
Dust

Stable Long-term Supply

Longterm Supply for industry

With a design assuming 24-hour continuous operation, our product has gone through a series of hard quality tests.
As well, a stable long-term supply will be provided not only to the body and parts but also the OS.
Furthermore, we procure the products and offer product support overseas through our global network.

Peripheral Devices

Don't worry about the compatibility with other companies' peripheral devices

You can combine our IPC with not only our Pro-face products but also other companies'.

You can safely use other companies' products since our IPC has been evaluated with commercially available expansion boards, as needed.

International Safety Standards

Complies with overseas safety standards

Complies with global safety standards. You don't have to worry about setting up our product for your exporting products.

Touch Panel

Simple operation possible through direct touch of the screen

With use of a resistive film (analog) touch panel, mouse operation can be substituted by touch and freely performed on the screen. Simple operation is possible even for those who are not good at using a mouse or keyboard.

RoHS

Earth friendly RoHS directive compliant

Our product has been made in order to comply with EU standards, which designate the limit of the use of harmful substances. We have established our earth friendly mounting technology so as to avoid flow of harmful substances designated by the RoHS directive into the earth via waste and in turn contaminate groundwater.
*Chinese RoHS directive: The units produced in March 2007 and after have been applied sequentially. Please feel free to contact us for when to apply Chinese RoHS directive to your devices.

Space Saving

Actualizes space reduction thanks to the one-unit type

This one-unit type contributes to space saving and can be set up to incorporate through touch panel operation without a keyboard or mouse.

VESA Arm

Easy arm installation

Complying with the VESA standard, our products can be installed flexibly to the arm, as well as other components.

The VESA standard compliant arms are available according to your application.

BTO

Built to order and shipped with your choice of options

We will accept any customers' orders according to the requested conditions, such as, "something with a high CPU and memory processing capacity," or, "something with the best quality but that is also affordable".

7-year Guarantee

We offer repair service even after production stoppage

Free guarantee for 1 year after delivery, (When several conditions and precautions have been observed.) we guarantee repairs for 7 years after delivery at our service repair center, even for items for which production has been discontinued. (Charged)
* For the products that were discontinued in September 2005 and before, our repair service will be effective during a 5 year period from the last shipment. Please understand, however, we may not be able to repair the products if the replacement parts should become unavailable, not limited to the above period.

Lineup | APL3000 SERIES | PS3000 SERIES | FP3000 SERIES | Option | WinGP | Pro-face Approach

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To order, please contact:

Pro-face
Your HMI and Industrial PC Authority