

# Pro-face

for the best interface

Globally Recognized  
Globally Trusted  
Globally Supported  
Locally Agile





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# Pro-face

for the best interface

## A Global Leader for 40+ Years

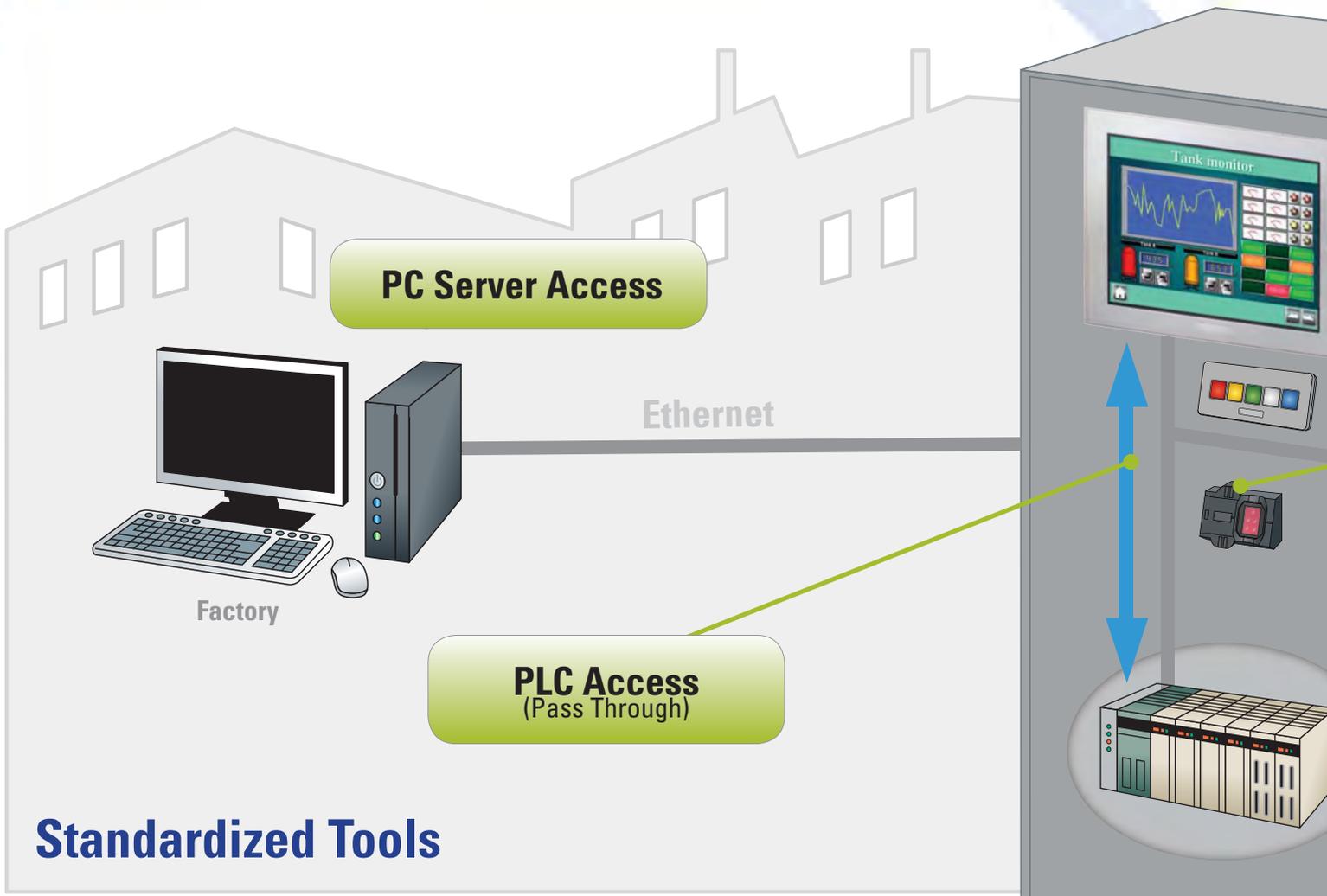
Pro-face is the leading independent global supplier of visualization and data management solutions for industrial applications.

We continue to set the standards for industrial solutions by offering the industry's most extensive product offerings and the highest levels of connectivity and support.

- » **More than 40 years providing industrial Human Machine Interface (HMI) technology**
- » **Pro-face is the most trusted name in the industry**
- » **Worldwide applications support teams ready to help you**
- » **Serving more than 50 countries with 17 main offices and 1200+ employees**
- » **We speak your language: English, Spanish, Portuguese, Japanese**
- » **We have a vast distribution network to provide products quickly anywhere**



# Solutions At Your Fingertips



## Standardized Tools

### GP-Pro EX Software

A Premier HMI Development Software that Supports Dedicated and Open HMI (PC-based) solutions. One Software package saves money and development time.

**Rich Functionality** delivers tools to cut application design time significantly. Features such as built-in logic programming, video support, and extensive 3rd party connectivity.

**Remote Support tools** are included that lower maintenance and support costs. Maintenance can be done with or without a PC on site.

pg.16

### Testing and Debugging

Simulation is an integral part of GP-Pro EX. Why wait to be in front of a customer before knowing how the HMI application will perform?

#### Test before you connect

The simulation feature creates a virtual HMI environment on your PC. It allows you to press buttons, enter values and monitor application behavior.

**Off-site Diagnostics** is a great use of the simulation tool. OEMs and System integrators will find this invaluable as they attempt service and support at the end-user site.

pg.24

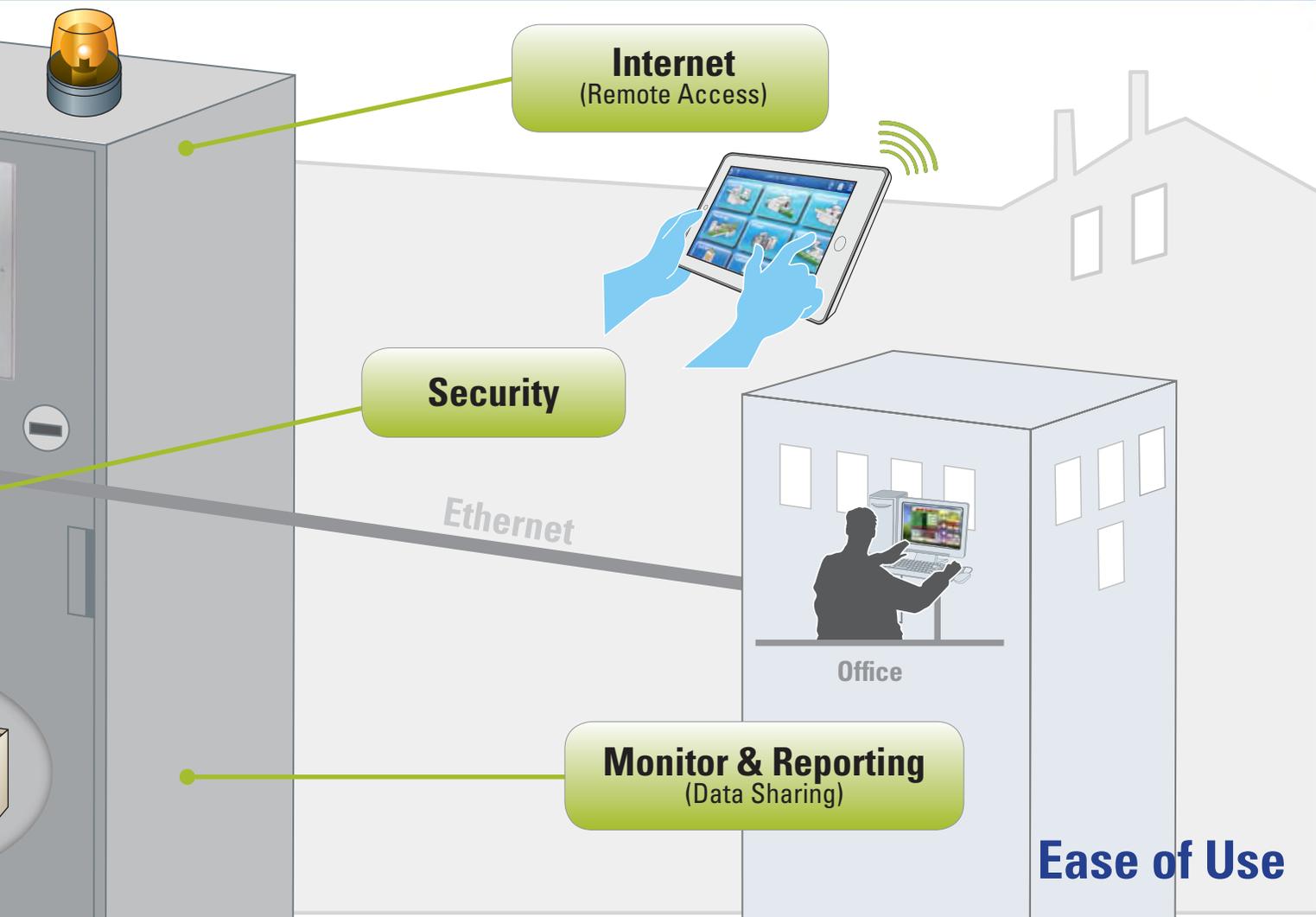
### Protection and Safety

A wide variety of security features are built into GP-Pro EX development software. The developer can employ multiple methods to secure their application.

**Intellectual Property Rights** protection is built into GP-Pro EX. You can secure and protect access to sensitive application information on a per part, per screen or entire HMI application.

**Safety for Machine Operators** can be managed by limiting access to key maintenance functions or prevent unauthorized operational changes.

pg.25



### Easy Field Updates

Looking for a solution to perform updates without the need for a PC on site or even the development software? We have your solutions right here.

**Multiple Machine updates** are easy using a USB memory stick to upgrade operator interface with new performance enhancements. Easy enough that your customer can upgrade their HMI.

**Lower your Operational Costs**  
The remote maintenance tools provide different methods to perform machine maintenance. Choose what works for you.

pg.29

### Remote Support

Select the right tool that meets the application need. Access, monitor, control and upgrade the HMI over the internet. Full service and support functionality.

**Reduce On-Site Travel** using tools to extract log files, alarm history or update recipes and new security parameters. Even get access to your PLC for updates. Work from your home office.

**Alarms via RSS Feeds** are received from HMIs in different locations. This benefit allows you to prioritize daily machine maintenance activities.

pg.30

### Pro-Server EX Software

Expand your machine's performance using Pro-server EX to provide data connectivity and reporting functionality. Get the right information to the right people.

**Powerful Data Connectivity** allows HMI to share information from machine to machine or to the corporate offices. This includes data that may be difficult to share using your PLC.

**Business System Integration** such as an MRP, MES, ERP system is easy with the variety of different connectivity interfaces available. Check them out!

pg.35

# Your Choice of Platform

## HMI



### GP4000 Series

The GP4000 Series offers touch screen displays with extensive simultaneous multi-protocol connectivity. The HMI to use for data sharing and data acquisition applications. Includes CF, video, Ethernet, serial and USB connectivity.



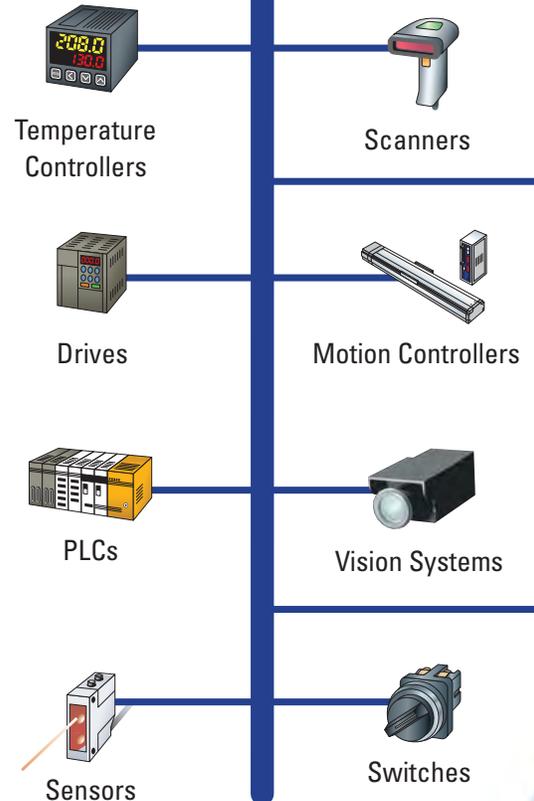
## HMI + Control



### LT3000 + LT4000 Series

The LT3000 operator interface family combines PLC functionality integrated with an HMI to create a cost effective, high value machine interface solution.

The LT4000M provides both HMI and digital analog control in a single unit. A unique modular style allows the display and rear module to be mounted directly (to each other) or separately (connected by a 3 or 5m cable).



### Flexible and Easy Installation with Compact Configurations



22mm Hole

**LT4000M Series**



**Fingerprint Recognition Unit**



**Illuminated Switch**

## iPC



### PS4000 Series

The PS4000 Series offers extensive connectivity, high performance, energy efficient processor options, and quick and easy storage expansion.

## Flat Panel Monitors



### FP3000 Series

Pro-face Flat Panel Monitors offer a wide range of display sizes, from 10.4" to 19" TFT color with enhanced resolution that will meet the needs of your application(s). They are all extensively certified and with Pro-face Investment Protection, you can minimize product migration costs by maintaining hardware cutout compatibility as new models join our family of products.

# HMI Overview

## Standard

**12.1 inch**

Standard Model

AC 100-240V

DC 24V

**GP-4601T / GP-4603T**

Isolated MPI Communication Port



**10.4 inch**

Standard Model

AC 100-240V

DC 24V

**GP-4501T / GP-4503T**

Isolated MPI Communication Port



Display (Resolution)	65,536 color TFT (800 x 600 pixels)	65,536 color TFT (640 x 480 pixels)
Brightness Control	16 level Brightness	
Touch Panel Type	Analog or Matrix (Supports 2 point touch)	
Memory	FEPROM 32MB (Application Memory), 320KB (Backup for HMI), 64KB (Backup for Control)	
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)	
SIO	COM x 2	
SD Card Slot	x1	
USB	USA Type-A (2.0) x 1, USB mini-B (2.0) x 1	
Replaceable Battery	Yes	

**7.5 inch**

Standard Model

DC 24V

**GP-4401T**



**5.7 inch**

Standard Model

DC 24V

**GP4301T / GP-4303T**

Isolated MPI Communication Port



**3.5 inch**

Standard Model

DC 24V

**GP-4201T / GP-4203T**

Isolated MPI Communication Port



Display (Resolution)	65,536 color TFT (640 x 480 pixels)	65,536 color TFT (320 x 240 pixels)
Brightness Control	16 level Brightness	
Touch Panel Type	Resistive Film (Analog)	
Memory	FEPROM 32MB (Application Memory)	FEPROM 16MB (Application Memory), 320KB (Backup for HMI), 64KB (Backup for Control)
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)	
SIO	COM x 2	COM x 1
SD Card Slot	x1	No
USB	USA Type-A (2.0) x 1, USB mini-B (2.0) x 1	
Replaceable Battery	Yes	Contact Pro-face

## W Model

**10.4 inch** DC 24V  
W Model

GP-4501TW



**7.0 inch** DC 24V  
W Model

GP-4401WW



**5.7 inch** DC 24V  
W Model

GP-4301TW



**3.5 inch** DC 24V  
W Model

GP-4201TW



Display (Resolution)	65,536 color TFT (640 x 600 pixels)	65,536 color TFT (800 x 480 pixels)	65,536 color TFT (320 x 240 pixels)
Brightness Control	8 level Brightness		
Touch Panel Type	Resistive Film (Analog)		
Memory	FEPROM 16MB (Application Memory), 128KB (Backup for HMI)		FEPROM 8MB (Application Memory), 128KB (Backup for HMI)
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)		No
SIO	COM x 2		
SD Card Slot	x1	No	
USB	USA Type-A (2.0) x 1, USB mini-B (2.0) x 1		
Replaceable Battery	Yes	Contact Pro-face	

## Modular

**5.7 inch** DC 24V  
Modular Type

GP-4301TM



**3.5 inch** DC 24V  
Modular Type

GP-4201TM



**3.4 inch** DC 24V  
Compact Type

AGP-4100



Display (Resolution)	65,536 color TFT (320 x 240 pixels)	Monochrome LCD 200 x 80 pixels
Brightness Control	16 level Brightness	
Touch Panel Type	Resistive Film (Analog)	
Memory	FEPROM 8MB (Application Memory), Equivalent to 128kb *1 (Backup for HMI)	FEPROM 2.2MB
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)	x1 (IEEE802.3u / IEEE802.3u, 10BASE-T/100BASE-TX) *2
SIO	COM x 1	COM x 1 *3
SD Card Slot	No	
USB	USA Type-A (2.0) x 1, USB mini-B (2.0) x 1	
Replaceable Battery	Contact Pro-face	

\*1 Application Memory can provide 128KB for Data Backup. For supported features, please refer to GP-Pro EX Reference Manual. \*2 GP-4104 Only. \*3 GP-4104

# HMI Overview

## Control

All-In-One Operator Interface plus Control.

**5.7 inch**  
Control Type

DC 24V

LT3300



**3.8 inch**  
Control Type

DC 24V

LT3200



Display Resolution	320 x 240 pixels (QVGA)	
Display Type	Monochrome Black/White LCD + TFT Color LCD	Monochrome Amber/Red LCD
Display Colors	16 shades + 4,096 colors	8 shades
Input Voltage	24 VDC	
USB	1 Type A (1.1) port	
I/O Expansion	Mix & Match any 3 EXM Modules	Mix & match any 2 EXM Modules
Embedded Digital I/O	16 in / 16 out	12 in / 6 out

## Modular

Touchscreen Operator Interface plus Control, with 22mm mounting.

**5.7 inch**  
Modular Type

DC 24V

LT4301TM



**3.5 inch**  
Modular Type

DC 24V

LT4201TM



Display Resolution	320 x 240 pixels (QVGA)	
Display Type	TFT Color LCD	
Display Colors	65,538 Colors	
Input Voltage	24 VDC	
USB 1 + 2	Type-A (2.0) + Mini-B (2.0)	
Embedded Analog I/O	4 in / 2 out	
Embedded Digital I/O	12 in / 8 out or 20 in / 12 out	

**AGP3000 w/ Control** (CANopen, FlexNetwork, Discrete I/O),  
and **AGP3000 Multimedia** are also available.  
**Consult eCatalog for more information.**

## Handheld HMI

Touchscreen Operator Interface  
with 11 Function Keys and Dual  
Protocol Support.

**5.7 inch**

Handheld

DC 24V

**AGP33x0H**



Display Options	Monochrome LCD	STN Color LCD	TFT Color LCD
Display Colors	Gold / Black (16 shades)	4,096 Colors	65,536 Colors
Function Keys	11 keys		
USB	Type-A (1.1)		
Ethernet	Yes		
CF Card	1 slot, Type II		
Serial Ports	RS-232C / 422 / 485		

## HMI Connectable Devices

- Easy to Connect  
USB connection
- Easy to Install  
22mm hole  
mounting
- Easy Setup  
No need  
for special  
programming

**USB**

Connection

DC 24V

**EZ Illuminated Switch**



**EZ Fingerprint Recognition Switch**



5 switches with multi-colored LEDs	Access HMI without requiring password
Tactile Switches	100 users (2 records for one user)
Changeable among 6 colors, 3 speed blinking	15 levels of security (set by HMI)
LED Colors: Red, Green, Yellow, Blue, White, Orange	Traceability of users & operations by HMI
Connects to GP4000M, GP4000, LT4000M	
Connects to HMI via USB cable	
GP-Pro EX v. 3.1 or later	

# iPC Overview

## Node Box

**1 Slot** DC 24V  
Atom N270 (1.6 GHz) / Core2Duo (2.26 GHz)

PS4000B

**2 Slot** DC 24V  
Atom N270 (1.6 GHz) / Core2Duo (2.26 GHz)

PS4000B

**5 Slot** DC 24V  
Core2Duo (2.26 GHz)

PS4000B

Ram	Atom N270: 1GB to 3GB Core2Duo: 2GB to 8GB
Storage Temperature	-20 to 60° C (-4 to 140° F)
Ethernet	Yes
Serial Port	2
USB	5
Input Voltage	24Vdc
Processor Speed	Core2Duo: 2.26 GHz Atom N270: 1.6 GHz
Power Consumption	Core2Duo: 90W (max) Atom N270: 60W (max)



Mate this industrial computer with one of Pro-face's Flat Panel Monitors for a complete industrial computing solution. The PS4000B can also be installed remotely from one of our FP3000 Series units.

## Flat Panel Monitors

**19 inch** AC 100-240V  
DVI I/F

FP3900T

**15 inch** AC 100-240V  
DVI I/F DC 24V

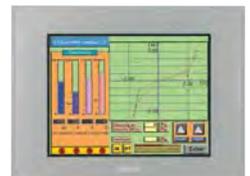
FP3710T

**12.1 inch** AC 100-240V  
DVI I/F DC 24V

FP36x0T

**10.4 inch** AC 100-240V  
DVI I/F DC 24V

FP3500T



Display (Resolution)	1280 x 1024 pixels (SXGA)	1024 x 768 pixels (XGA)		680 x 480 pixels (VGA)
Display Type	TFT Color LCD			
Display Colors	16,777,216 Colors		262,144 Colors	
Display Area	376.32 x 301.06 mm	304.1 x 228.1mm	245.76 x 184.32 mm	211.2 x 158.4 mm
Touch Screen	Resistive Film (analog)			
Touch Screen Interface	RS-232C or USB (Type B, USB 2.0 compatible)			
USB (1)	Type-A 2.0 (when flat panel monitor USB is connected to PC)			
USB Location	Rear or Front		Bottom	
Video	VGA Interface (analog RGB) or DVI-D Interface Connector			

# Panel PC

**15 inch** DC 24V AC 100-240V  
Atom N270 (1.6 GHz) / Core2Duo (2.26 GHz)

PS4700



**15 inch** DC 24V  
Atom Z510 (1.1 GHz)

PS4700 (Z510)



**19 inch** DC 24V AC 100-240V  
Atom N270 (1.6 GHz) / Core2Duo (2.26 GHz)

PS4800



Slot	PCI x 0, PCI Slot x 1, PCI Slot x 2 PCI x 1/1PCIe x 1	PCI x 0	PCI x 0, PCI Slot x 1, PCI Slot x 2 PCI x 1/1PCIe x 1
Ram	1GB to 3GB (Atom N270) 2GB to 8GB (Core2Duo)	1 GB to 2GB	1GB to 3GB (Atom N270) 2GB to 8GB (Core2Duo)
Display Type	TFT Color LCD Display		
Touch Screen	Resistive Film (Analog)		
Ethernet	Yes		
Display Area	W 383.5 x H 282.5 mm [ 15.10 x 11.12 in ]		W 459.5 x H 359.5 mm [ 18.09 x 14.15 in ]
Serial Port	2	1	2
USB	5	3	5
Input Voltage	24Vdc / 100 to 240 Vac	24Vdc	24Vdc / 100 to 240 Vac
Display Resolution	XGA (1024 x 768 pixels)		
Stainless	Yes		



ISO 9001:2000  
Quality System Certified

ISO 14000  
Quality System Certified



**Extend Product Part Life** with large heat sink & intelligent fan



**Easily Replaceable** "Slide-In Slot" HDD/SSD Drive



**Reliable Operation** with a Disk-less System

# HMI Software Solutions

Screen Editor



pg.16



## Create Your HMI Application in Minutes

### Set up communications

- Choose and set up PLC and third-party devices effortlessly
- System settings are logically arranged and easy to find

### Design application/screens

- Drag-and-drop addressing, parts and colors
- Efficient features to reduce development time
- Create consistent look and feel using the user-defined templates

### Simulate and test

- Verify before you travel
- Debug your application without hardware
- Test without downloading

### Download/transfer

- Tamper-proof HMI application – password-protected project source

**One development software for both dedicated and open windows-based operator interfaces**

### WinGP IPC Runtime

Runtime software for GP-Pro EX created applications

- HMI applications developed for Pro-face dedicated operator interfaces are quickly installed on industrial touch screen computers creating On-Demand Windows-based HMI

pg.33

### Remote PC Access

Harness the power of a PC from your dedicated HMI

- View PDF, CAD, DOC, XLC or any file type located on a remote server PC
- Instantly update documentation to an entire plant by storing manual, data sheet, help files on one server
- Link directly to OEM Web pages

pg.32

### Web Server

View HMI information and alerts through a web browser

- View alarms on any PC via Web browser or RSS reader
- Remote troubleshooting, Web viewing of alarms; subscribe to alarm RSS
- View PLC and internal addresses for troubleshooting

pg.31

### FTP Server

pg.30

Upload and download data files to the operator interface over the internet

### Remote HMI

Monitor & control HMI screens from a smart phone or tablet (data input, send work instruction, etc.).

pg.26

### Transfer Tool

pg.27

Easy machine maintenance and data log retrieval

### Memory Loader

pg.29

Field maintenance and backup with data protection

### Pass Through

pg.28

Programming and monitoring PLC via operator interface

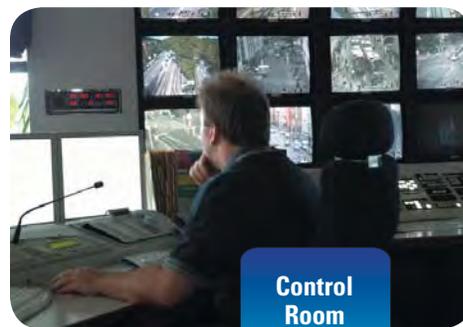
Data management software

# Pro-Server EX

pg.35

## Enterprise-wide data collecting, sharing, connectivity solution

- Applications
- Collect and Manage Data
- Connectivity Support



Control Room

Pro-face open-platform HMI

Plant Floor



Application software for sharing user-defined factory-floor data throughout the corporate enterprise

# GP-Viewer EX

## Monitor and Control Multiple Operator Interfaces from a Single Remote PC

pg.38

Remote Camera Monitoring

# Camera-Viewer EX

## Record, Display and Playback Live Video of Industrial Operations on a Remote PC

pg.39



# GP-Pro EX Features

One development software for both dedicated and open windows-based operator interfaces

## GP-Pro EX

Intuitive HMI Screen Development Editor

Create Your Application in Only Minutes



### 1. Set-up Communications

- Choose and set up PLC and third-party devices effortlessly
- System settings are logically arranged and easy to find

### 2. Design Application / Screens

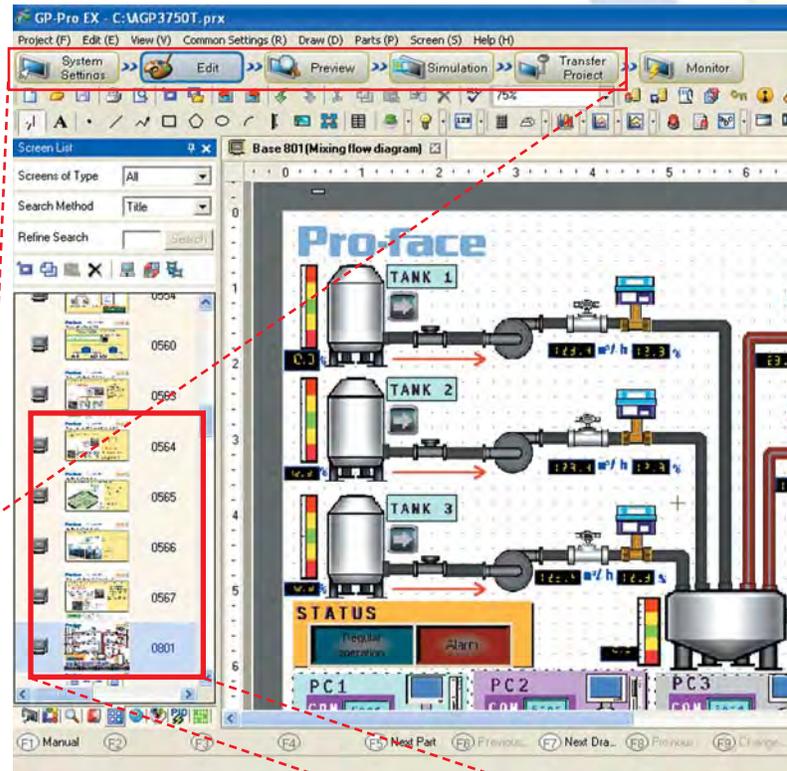
- Drag-and-drop addressing, parts and colors
- Efficient features to reduce development time
- Create consistent look and feel using the user-defined templates

### 3. Simulate and Test

- Verify before you travel
- Debug your application without hardware
- Test without downloading

### 4. Download / Transfer

- Tamper-proof HMI application – password-protected project source



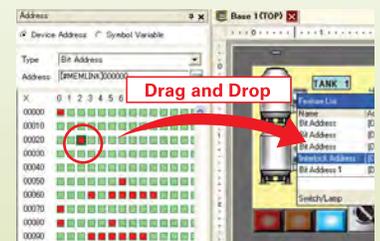
#### Thumbnail View

- Visually select the screens you need
- Updated instantly
- Screen number and descriptive label are shown for clarity



#### Visual PLC Addressing

- ✓ Smart visual address mapping for fast PLC-address-to-part communication connections
- Drag and drop PLC address onto part to quickly link controller address to push button, tank, graph, etc.
- Gives a quick visual check on how each part is mapped to controller or I/O device
- Significantly reduces screen development time
- Quick indication of what controller addresses are still available



## Extensive Time-Saving Features

Create consistent look and feel, detailed applications in minutes!



### Resolution Conversion

- Adjusts HMI application to different screen sizes



### Configurable Toolbars

- Show the toolbars you use most frequently; hide the ones you don't to free up more workspace



### Workspace Tabs

- The tools you need at your fingertips
- Quickly see screen thumbnails, system settings, properties, address map, search-and-replace and more



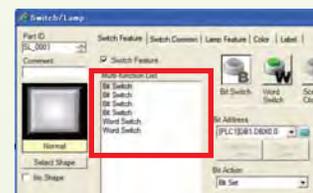
### Headers and Footers

- One-click access to multiple user-defined headers (e.g. title) and footers (e.g. menu) for perfect placement. Edits to headers/footers update all screens simultaneously!



### Multifunction Switches

- Execute multiple actions with one switch
- No need to stack switches, leading to possible operator error
- Choose Bit Switch, Word Switch, Special Function, change screen, etc.



### Property Window

- Quickly make changes to multiple objects with a single mouse click



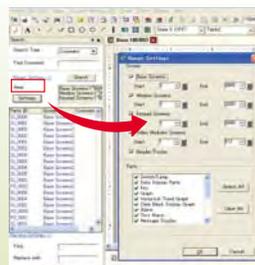
### Templates

- Reuse complete screens with addressing
- Create your own
- Build entire applications by using templates
- Perfect for OEMs



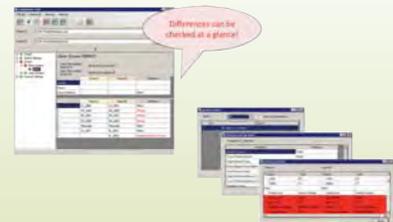
### Search and Replace

- Easily find text anywhere in the application
- Quickly replace addresses or text throughout the application



### Project Comparison Tool

- You can check the details to see if there are any differences between project files



# GP-Pro EX Features

## Application Investment Protection Import older project files

### Project Converter

Import and convert project data created with previous versions of GP-Pro to upgrade to the latest hardware. You can also save projects created in GP-Pro EX 3.1 to be read by 3.0 with the version reverter tool.

GP510



1990s

GP2000



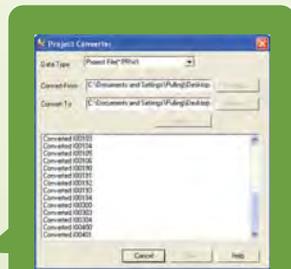
AGP3000



GP4000



TODAY

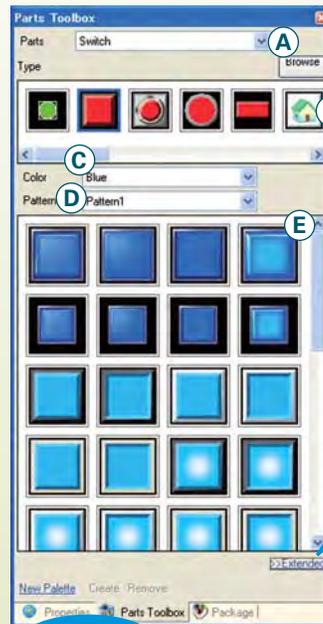


Project Converter Tool

## Powerful Parts Toolbox allows for part customization and expansion

### Parts Toolbox

Create more intuitive screens by understanding how parts are used at the site. Easy search system leads you to the right drawing.



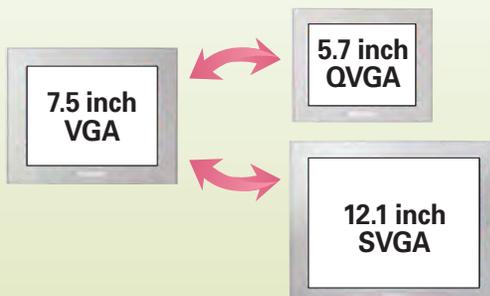
- A Category selection**  
Select from switch/lamp/data display/graph/etc.
- B Type (shape) selection**
- C Color selection**
- D Pattern selection**  
0-256/interface lock/delay
- E Parts display based on category**
- F Color number selection**  
Select from 65535 colors/256 colors/etc.
- G Part drawing ID**

Plus!

- Select shape and format of parts already in place by opening the editing screen (shape browser).
- Register your own parts and group together for quick part placement

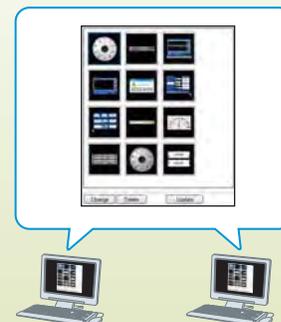
### Auto Screen Scaling

Built-in Resolution Converter automatically converts project files to different resolutions. Significant time savings in changing screen sizes.



### Share Images and Parts

Register your own parts and save them as a template on the server to share. Group together for quick part placement.



Register multiple parts and images as one group!

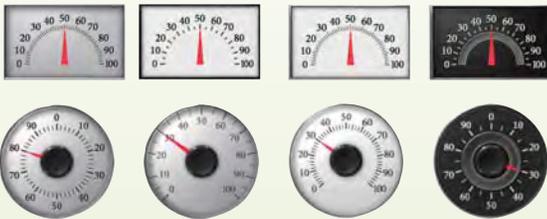
## Free Online Parts enhances the look and feel of your HMI to differentiate you from your competitors

### 3D Real Parts

Add three dimensional "Real Parts" to create easy to understand and impressive operator interface.

#### ● Meters

Production equipment measurements and temperatures intuitively displayed.



#### ● Switches/Lamps

Appearance of a real switch or lamp adds value for the machine operator.



#### 3D Real Parts add value to your machine

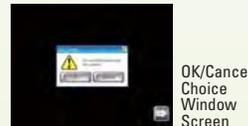
Making an HMI application that is easy to read, easily understood and minimizes operator error can be challenging. Use these enhanced parts to provide familiarity to the operator.

### Free Part Samples, etc.

Additional free part samples are available on the web for downloading. You can quickly expand your selection of factory automation equipment images to enhance HMI screens.

#### ● Thousands of Parts

Easily incorporate part samples into existing screens.



OK/Cancel  
Choice  
Window  
Screen



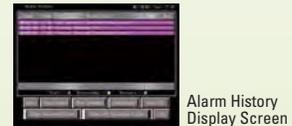
Movable  
Keypad

#### ● Library of Screens

Sample screens that help you reduce screen development time.



Clock Data  
Change  
Screen



Alarm History  
Display Screen

#### ● Extensive Features

High functionality distinguishes Pro-face HMIs from Competitors.



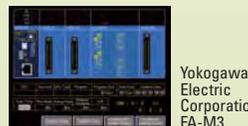
Multiple Trend  
Graph Display  
Feature



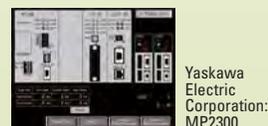
Capturing USB  
Storage Screen

#### ● Pre-Configured Device Connections

Simplify complex control settings for controllers and inverters with sample communication presets.



Yokogawa  
Electric  
Corporation:  
FA-M3



Yaskawa  
Electric  
Corporation:  
MP2300

## Our **FREE** Technical Support site is a vast resource of product and application knowledge designed to help you maximize the value of your Pro-face HMI

- FAQs
- Manuals
- Sample Downloads
- Screen Development Techniques
- Driver Downloads
- HMI Learning Center
- Application Notes
- Certifications
- Much, Much More...

[HMIsource.com/otasuke](http://HMIsource.com/otasuke)



# GP-Pro EX Features

## Reduce number of screens with extensive animation features

### Part Visibility On/Off

Control part visibility by device or operator. Save development time and reduce project file size.



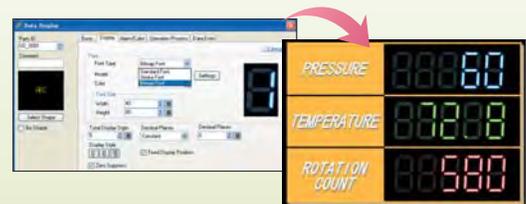
Use the same base screen

Reduce work by eliminating need to create new screens.

## Functional parts simplify screen design and enhance readability

### Font Choices for Data Display (Bitmap)

7 segment feature on data display provides for easy readability and visibility.



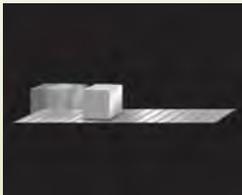
Multiple fonts choices



### Move/Rotate Graphics

Move and rotate drawings and images to reduce design time when creating call-up screens.

Horizontal/vertical transfer



Express progress and movements on a conveyor.

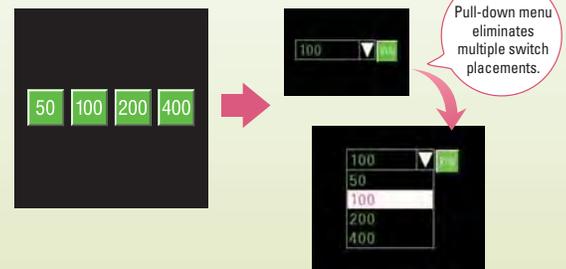
Rotate



Animate meters to display realistic situations.

### Pull Down Selector List

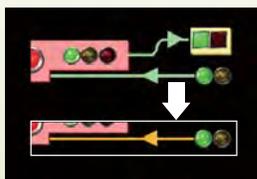
Reduce the number of switches installed using pull-down selection parts to save display space and development time.



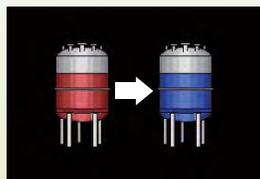
Convenient switch to change screens.

### Control Graphic Colors

Vary the color of drawings and images, to eliminate work involved in creating call-up screens.



Change the colors via various control parameters



Color change showing current operating conditions

Change the color of lines, drawings, letters, graph lines, background, etc.

### Scalable Numeric Entry Display

Numbers entered using the numeric keypad are displayed on the keyboard created by the user to prevent incorrect data entry.

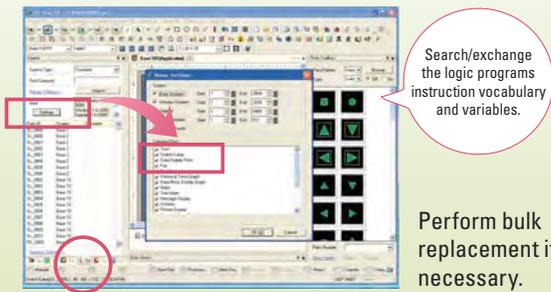


Key size may be scaled easily to match display criteria

## Maximize the value of your HMI and do more than before.

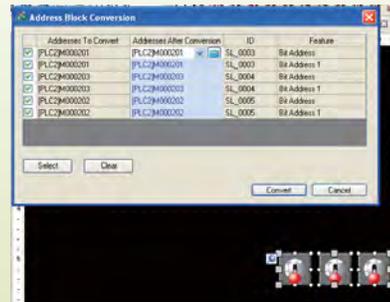
### Quick Search Window

Search for parts information by item in the project. Edit groups of devices, labels, and parts by using the search results. You can also search and replace text on screens.



### Simultaneous Part Address Changing

Change selected part addresses simultaneously. Duplicating similar screens is ultra fast and easy.



### Fast Address Mapping

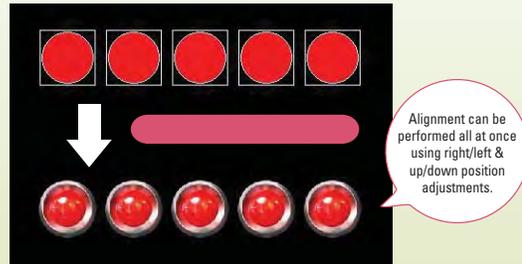
Drag and drop logic addresses onto graphic images for fast linking and reduce logic control mistakes.



Call up parts by clicking a parts ID.

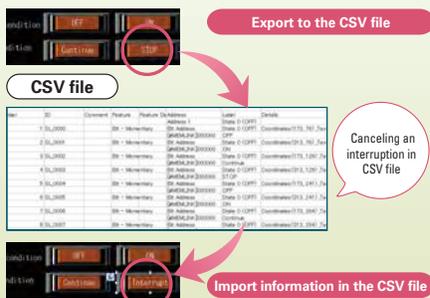
### Multiple Part Editing

Change the shape of multiple parts at one time. Easily re-create images from past project files.



### Import/Export the Part List in CSV

Export a parts information record to CSV file. Make changes using Excel and import information back into the project. Make fast label changes to a large number of parts.



### Display CAD Images

Write DXF, DWF files downloaded using Visio to GP-Pro EX project files. You can also use CAD data on screens.

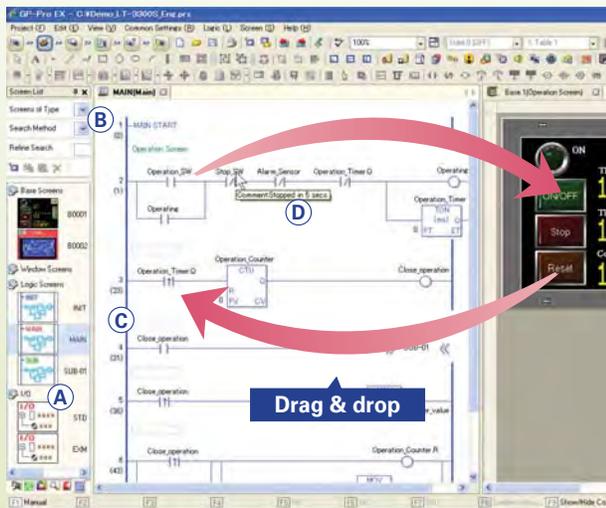


# GP-Pro EX Features

## Unburden your PLC with built-in control!

### Ladder Logic Control Programming See supported instruction notation list

GP-Pro EX provides a built-in logic editor to create an all-in-one HMI plus Control application. Using one software for both screen development and ladder logic ensures glitch free operations and tighter revision control.



#### A Block-structured Subroutine

Initialization logic, main logic and subroutines can be blocked, enabling smooth editing.

#### B Logic search/replace

Search or replace the indefinite numbers of logic with the search window.

#### C Number of steps displayed

The size of a logic program is easily viewed with the number of steps displayed up to 60,000 steps. The internal memory is reduced to 1MB for 60,000 steps (screen data).

#### D Tip Display for Comments

Displaying comments as tips makes a program clear. Comments can be displayed at any time.

### Use the logic program for controlling external devices!

\*Not available on all models.

\*Not compatible with some connection device address specifications

### Cool Maintenance Features allow monitoring of logic under operation

- **Logic Display**  
You can check the operation of a logic program within the system on site.
- **Address Display**  
The logic address is displayed, enabling you to check variable names and their current values.
- **Online Editing**  
You can change a logic program even while the control function is operating without stopping work.

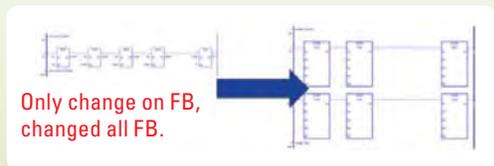
### Function Block

You can reuse logic programs by making them into a component, which drastically reduces development hours and mistakes in programming.

#### Easy Operation for EX



#### Save Memory for GP



Easy to place FB to Ladder by Drag & Drop.  
Able to reduce memory when same FB used.

### Create your own functions or write a simple communication driver

Develop a program or simple communication driver using Pro-face D-Script simplified language.

Re-use previous revisions of D-Scripts created by user, no need to re-create work previously done.

#### Function

Bit operation ..... ON, OFF, clear  
Memory operation ..... Copy and shift, etc.  
CF file operation ..... File access, delete list output, etc.  
USB file operation ..... File access, delete list output, etc.  
SIO port operation ..... Send/receive data  
Printer operation ..... Send data  
Draw ..... Call screen, circle, straight line, square, etc.  
Others ..... Debug message and exit WinGP

#### Tool Conditional

Branching ..... IF, LOOP, etc.  
Comparison ..... AND, OR >, =, <, etc.  
Operation ..... +, x, bit operator, etc.

Configure the settings on a trigger condition such as "Continuous Action", "Timer-Bit change" and "When condition is satisfied". Additionally, a wide variety of functions such as search (searching and replacing strings in a script) and debugging functions (displaying messages and addresses on the system), etc., are provided.

## Easy language setup according to the operator

### Create Multi-Language Applications

Use Excel to create multi-country text tables to allow the HMI operator to easily switch between display languages.

	A	B	C	D	E
1	Japanese	Korean	Chinese	English	
2	こんにちは	안녕하세요	你好	Hello	
3	ありがとうございます	고맙습니다	谢谢	Thank you	
4	自動	자동	自动	Auto	
5	停止	정지	停止	Stop	
6	危険	위험	危险	Danger	
7	上昇	상승	上升	Up	

Input in Excel, copy and paste into GP-Pro EX.

Text Table

No.	Character of Text Row	1. Japanese Table 1	2. Korean Table 2	3. Chinese Table 3	4. English Table 4
1	10	1	こんにちは	안녕하세요	你好
2	10	1	ありがとうございます	고맙습니다	谢谢
3	10	1	自動	자동	自动
4	10	1	停止	정지	停止
5	10	1	危険	위험	危险
6	10	1	上昇	상승	上升
7	10	1			
8	10	1			

### Use Windows™ Fonts for Readability

Windows™ computer fonts may be used for the data display, text table, and alarm. Anti-aliasing support in labels for smooth font display.



Responds to multiple languages.

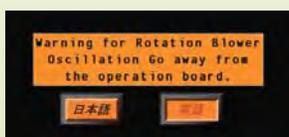
The font and size of the text table and label of the switch/lamp can be setup individually.

### Automatic Font Size Adjustment

Switching languages when multiple-languages are used automatically adjusts font sizes according to the size of the switches, lamps and message displays.



Japanese



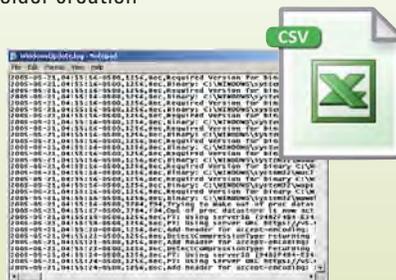
English

Character size will be enlarged or reduced if the number of characters decreases or increases when switching languages.

## Extended alarm functions for reduced labor thanks to added enhanced functions

### Export Alarm and Sampling Data to CSV

- Any international date format available
- Multi-Language Text Table feature is supported
- Improved performance when saving files with New Folder creation



### Batch Conversion of Text Table Font

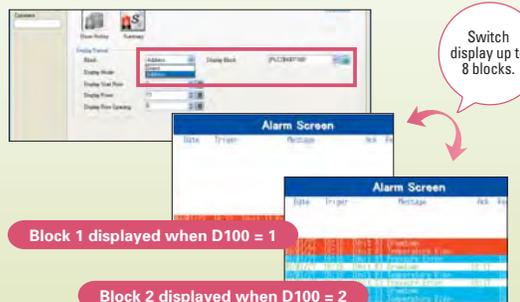
Able to change the font setting for each language at one time.



Able to change font type and size by each table.

### Control Alarm Indication

Reduce screen design and save time by using alarm blocks that display alarms based on the device or level of importance on one alarm indicator.



# GP-Pro EX Features

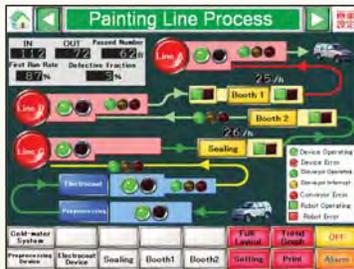
## Verify Performance and Operation Without Hardware

### GP-Pro EX HMI Screen and Logic Simulation

A pseudo-environment created on your PC. Prevent errors in operation by allowing confirmation and debugging before transfer.

#### Screen Operation Check

Confirm screen performance before transfer without connecting to PLC. Check actions performed using the touch panel installed by clicking with the mouse.



Do a screen capture to use for creating specifications.

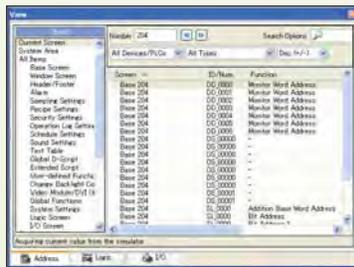
#### I/O Operation Check

Confirm current values for addresses allocated to I/O driver terminal in order to control external I/O. Some I/O drivers allow switching between ON/OFF state or change current values.



#### Controller Address Check

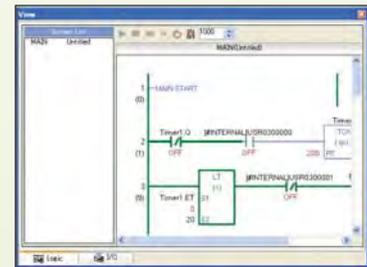
Display and edit the list of present values of virtual connected devices.



Perform intuitive operation debugging using the screen view or logic view.

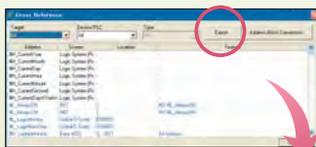
#### Logic Operation Check

Confirm present values and ON/OFF status of symbol variables before transferring the project file. Minimize time in logic program debugging.



#### Cross Reference CSV Export

Output the list of used addresses as a CSV file to perform a cross reference check. You can select to output either individual screens or all screens.

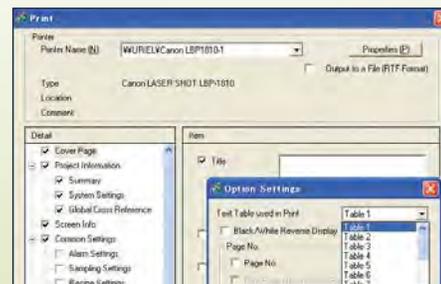


Export to CSV file

Address	Screen	Location	Feature
##CurrentValue	Logic System (Parameter)		
##CurrentMonth	Logic System (Parameter)		
##CurrentDay	Logic System (Parameter)		
##CurrentHour	Logic System (Parameter)		
##CurrentMinute	Logic System (Parameter)		
##CurrentSecond	Logic System (Parameter)		
##CurrentSecondFrame	Logic System (Parameter)		
##MACHINE-XXXX0	Image Link	Video Control Address	
##MACHINE-XXXX1	Image Link	Video Control Address	
##MACHINE-XXXX2	Image Link	Video Control Address	
##MACHINE-XXXX3	Image Link	Video Control Address	

#### Print Out Settings

Select and print required setup information of the project file. Minimize documentation labor.



rtf format output option

## Security Controls Prevent Unauthorized Access

A variety of security controls are available to allow operators access to select HMI screens while preventing unauthorized access to password protected screens such as recipes and alarm screens.

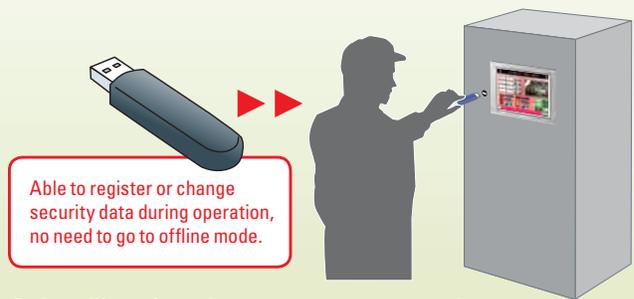
### Define Access and Restrictions per User

Access rights consisting of user names, passwords and their assigned access level are determined for each operator interface.



### Security Maintenance

Quickly and easily change passwords for each machine operator. Passwords may be changed or added using a memory card or by FTP!



Delete files after changes to ensure security.

### Operator Safety (Security Per Part)

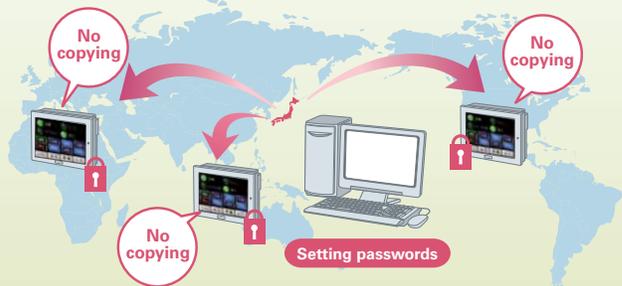
Configure access and authority parameters per part by requiring a certified ID or password for parts that are controlled by different security levels.



Security levels may be set for each part for operator safety. Combined with the animation function, some parts may become inactive or hidden if they require a higher authority level after operator log-in

### Project Security

Set passwords for each screen or script to prevent accidental unauthorized access. Use security features to protect intellectual property rights.



Investment Protection: Protect your data assets even when exporting the system overseas.

### No PC on site Required

Use a USB memory stick for daily, weekly or monthly security changes, performing part label changes, transferring screens, setting recipes or collecting log data from the HMI.

### Perform secure project updates for OEMs and System Integrators

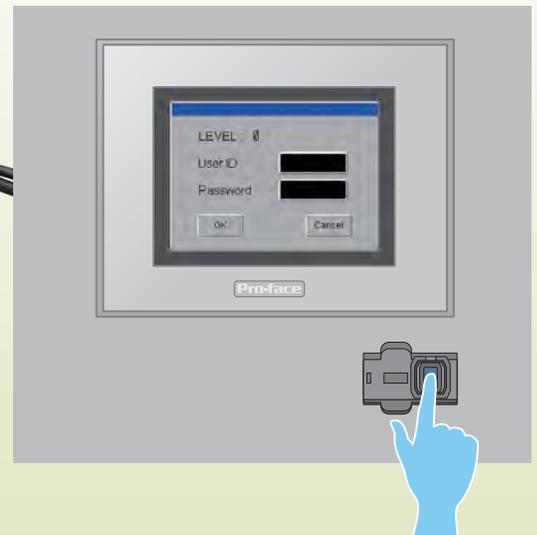


# GP-Pro EX Features

## Security Controls Prevent Unauthorized Access

### EZ Fingerprint Recognition Unit

Fingerprint recognition unit easily connected with HMI via USB.



- Restrict user access further without use of passwords which could be written down or shared.
- 22mm mounting with USB connection.
- Easy setup - No need for special programming, easy setup by GP-Pro EX

## Monitor Operations Virtually From Anywhere

### Pro-face Remote HMI

Monitor and Control Pro-face HMI screen on a smart phone or a tablet.

#### Efficient

See machine information anywhere without going to the spot, saving you travel time.

#### Effective

Able to monitor status of multiple machines by one Pro-face Remote HMI.

#### Easy Set Up

GP-Pro EX software facilitates easy set up and activation of Pro-face HMI.

#### Interactive

Besides monitoring, you can control the machine from your tablet or smart phone (data input, send work instruction, etc.).



On-site HMI in Your Hand!



## Transfer Tool Field Maintenance and backup with data protection

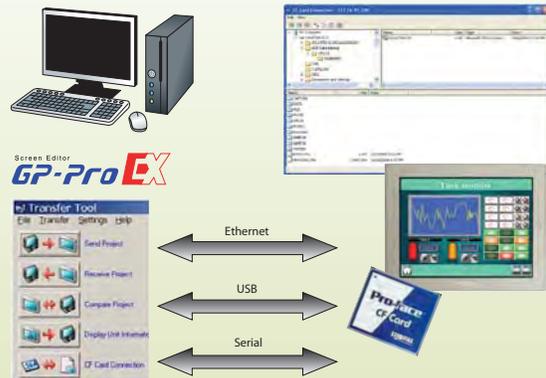
FREE Transfer tool allows application upgrades to the operator interface in the field without the need for development software. Ideal maintenance solution for OEMs or system integrators looking for an easy field upgrade solution.



By accessing the CF/SDcard/USB storage of the Pro-face HMI main unit using file transfer, you can read or write log and recipe data.

### Easy Machine Maintenance and data log retrieval

### Choose Various Interface Options to transfer Information



### Easy Low Cost Field Maintenance

#### Use Transfer Tool on site to:

- Update and backup HMI and logic projects
- Download recipe, video, security and language updates to the compact flash card.
- Compare differences between two HMI applications
- Upload log data from the HMI CF Card.
- Maintain information transfer flexibility via: Ethernet / USB Port / Serial Port

### Application and Benefits

#### HMI Application verification (revision control)

- Check for application tampering by comparing HMI application project on unit to a known good project.

#### Intellectual Rights Protection

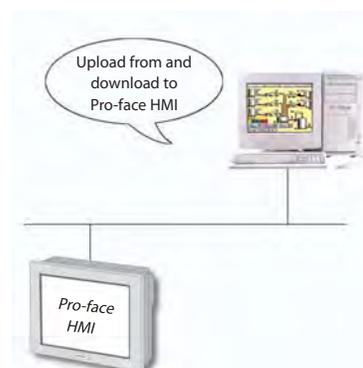
- Allow others to perform field updates without the ability to access proprietary project information.

#### Access Compact Flash Data Storage Device

- Retrieve or store log, recipe, other files etc. using any of the three transfer methods.

### Using Transfer Tool (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI
Download Cable:	USB, Serial or Ethernet Connection
File Storage (Optional):	CF/SD Card or USB Memory (> 128 MB)
Transfer Tool:	Windows-based PC/AT, install stand alone
Network Connection;	Based on transfer method (USB, Serial, Ethernet)



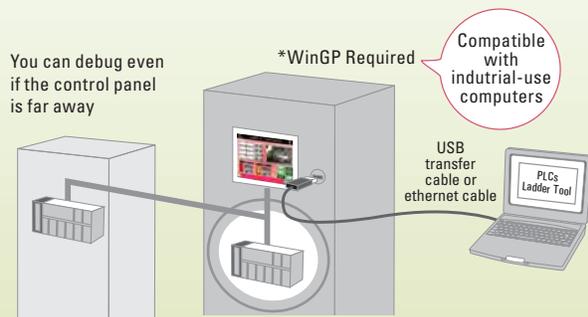
# GP-Pro EX Features

## Pass Through Programming and Monitoring PLC via Operator Interface

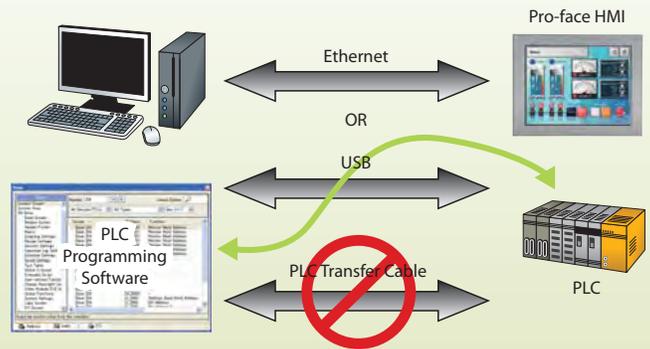
FREE Pass Through tool allows you to program the PLC through the operator interface. PLC access is provided through the Ethernet connection on the HMI. Ideal for quick programming changes to optimize overall system performance.

### Pass Through

Easily view and debug ladder logic using the operator interface. Connect to controller without opening the panel via a USB front-mounted cable.



### Remote PLC connection through HMI



### PLC Access via your Operator Interface

#### Use Pass Through to:

- Program or monitor PLC via HMI.
- Eliminate need to connect a PLC Programming cable.
- Take advantage of existing HMI to PLC communication cable connection.
- Access PLC remotely through HMI's Ethernet or USB port.
- Save travel expenses by performing remote maintenance.

### Application and Benefits

#### On site PLC Diagnostics

- No need for PLC programming cable. Use the USB or Ethernet port on the HMI to obtain communication access to the PLC.

#### Off site Remote PLC Diagnostics

- Use the Ethernet port on HMI to gain PLC access remotely. Even if PLC normally programs through a serial connection.

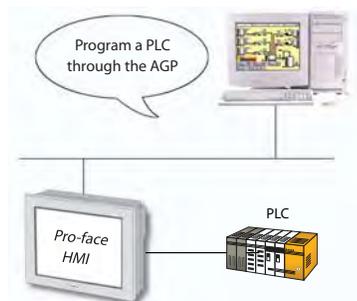
#### Update PLC without disruption

- Diagnose and perform PLC maintenance without disrupting communications to the HMI.

### Using Pass Through (Tools Required)

Note: Not all PLCs are supported- see documentation

Operator Interface:	AGP3000 or GP4000 Series HMI with Ethernet
Development Software:	GP-Pro EX V3.1 or later
Device/PLC Connection:	Serial or Ethernet (see supported driver list)
Network Connection:	Dependent on supported driver (Ethernet or Serial)



# Memory Loader Field Maintenance and Backup with Data Protection

FREE Memory Loader tool stores project, drivers or images to upload to one or multiple HMIs using a simple USB or Compact flash storage device. Eliminates the need for HMI development software and a laptop on site.

Fast and Easy with USB Stick!

Use CSV files to change labels without an editor. Change to familiar names.

**No PC required for Factory or remote site updates!**

Screen Editor **GP-Pro EX**

Memory Loader

USB Memory OR Compact Flash

Pro-face CF Card

RF\_Starting USB\_Starting

## Simple and Safe Field Maintenance

### Use Memory Loader to:

- Prepare a CF or USB image to load on an HMI.
  - Includes Project, Driver and System updates
  - Multiple Projects can be stored simultaneously
- Download project to HMI without using a PC.
- Back-up existing project in HMI before updating.
- Offer a simple update procedure that can be performed by the machine operator.

## Application and Benefits

### Remote Field Upgrades

- E-mail edited project file to site location for technician to store on USB stick and upload to operator interface.

### Project Backup and Recovery

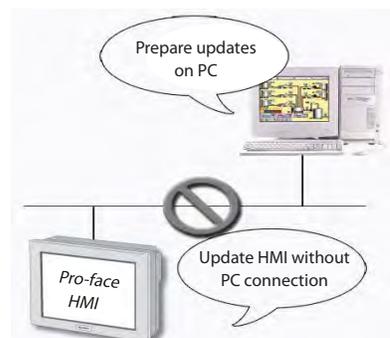
- Backup existing HMI application before updating to restore HMI to previous state if necessary.

### Update Multiple HMIs (portability)

- Use CF card or USB memory stick to update all HMIs using the same application.

## Using Memory Loader (Tools Required)

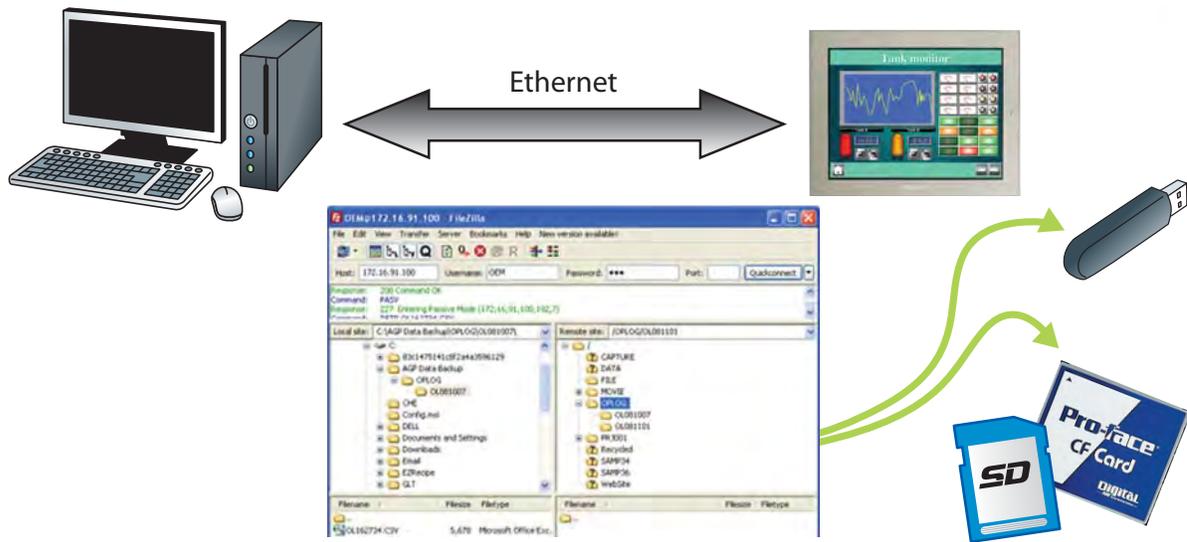
Operator Interface:	AGP3000 or GP4000 Series HMI
File Storage:	CF/SD Card or USB Memory (> 128 MB)
Development Software:	GP-Pro EX V3.1 or later (needed only to edit project files before transferring to storage device.)



# GP-Pro EX Features

## FTP Server Upload and Download Data Files to the Operator Interface Data over the Internet

FREE FTP Server provides OEMs and System Integrators the ability to access an operator interface to perform remote routine maintenance or online customer support without the need to travel on-site.



### Cut Costs and Add Service Value

#### Use any FTP Client to:

- Access the Operator interface via IP Address.
- Upload Diagnostics Data: Alarms, Operation Log, Event Recorder Video
- Perform Remote Maintenance:
  1. Upload and Download Operational Data
  2. Training Videos, Recipe Data, Security Settings
  3. Multi Language Updates

### Application and Benefits

#### Reduce travel cost

- Acquire alarm logs, event recorder, video captures and data files over the internet.

#### Save Travel Time

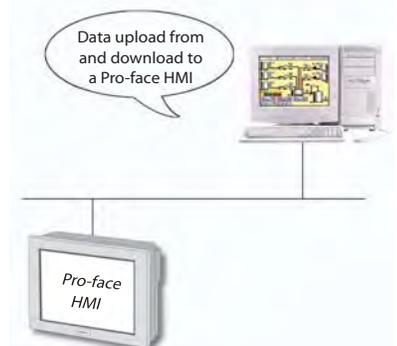
- Perform remote diagnostics and phone support in your office, eliminating on-site travel time.

#### Easy Field Maintenance

- Update recipe data, security settings and language settings without on-site plant floor visit.

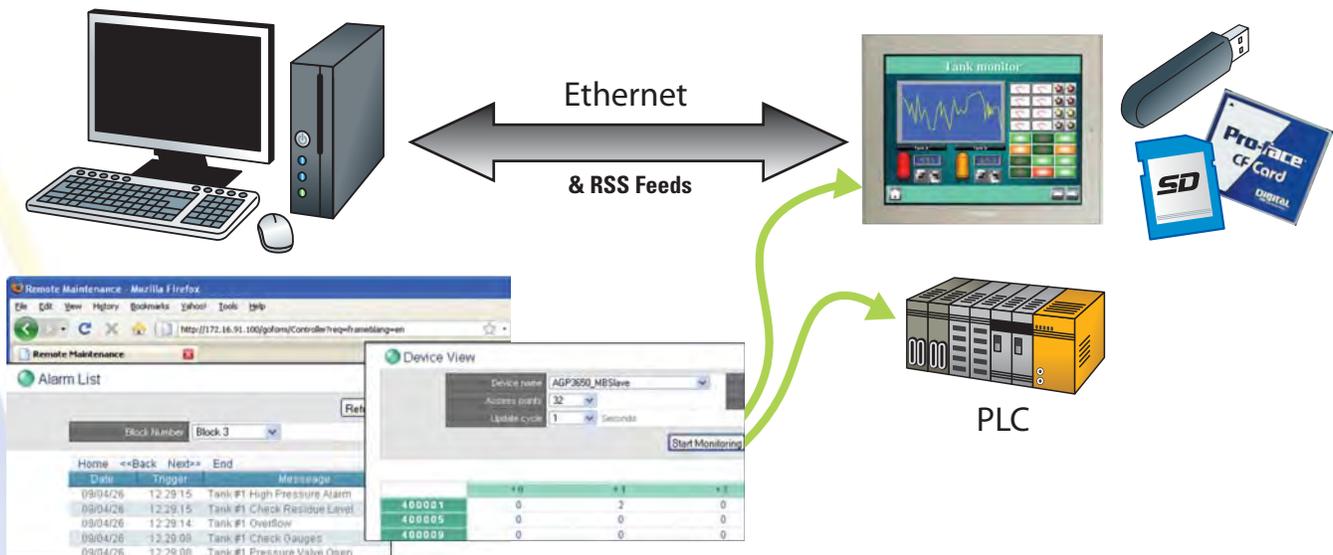
### Using FTP Server (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI with Ethernet
File Storage:	CF/SD Card or USB Memory (> 128 MB)
Development Software:	GP-Pro EX V3.1 or later
FTP Client:	Filezilla, Internet Explorer, or similar
Network Connection:	Open access to HMI static IP address



## WebServer RSS Feed Alarm Monitoring and Launch GP-Viewer with Browser

FREE WebServer provides OEMs, System Integrators and End-users to automatically receive alarm notifications through RSS feeds, or launch GP-Viewer to monitor the machine operator activities.



### Monitor Machine + Process Performance

Use standard web browser to:

- Access the Operator interface via IP Address
- View Active and Historical Alarms
- Read and Write data to Operator Interface
- Read and write data to PLC memory
- Launch additional HMI software tools
  1. Launch GP-Viewer to monitor and train machine operator remotely
  2. Launch FTP Server to perform web-based maintenance updates

### Application and Benefits

#### Remote Alarm Monitoring

- Automatic notification via RSS feeds
- Review and prioritize daily alarms to reduced maintenance costs.

#### Update PLC Data

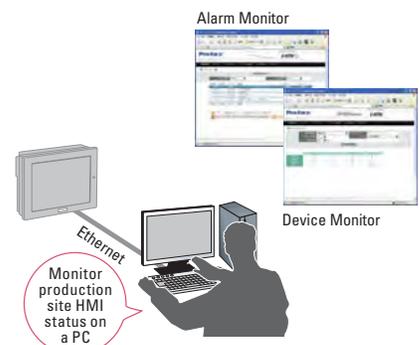
- Optimize machine performance using web-based monitoring and updating PLC data values.

#### Update Operator Interface Data

- Reduce individual operator alarm inspections to increase maintenance efficiency.

### Using WebServer (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI with Ethernet
Web Content Storage:	CF/SD Card or USB Memory (> 128 MB)
RSS Reader:	Optional, any 3rd party RSS reader
Development Software:	GP-Pro EX V3.1 or later
Web Browser:	Internet Explorer, Mozilla, Firefox or Similar
Network Connection:	Open access to HMI static IP address



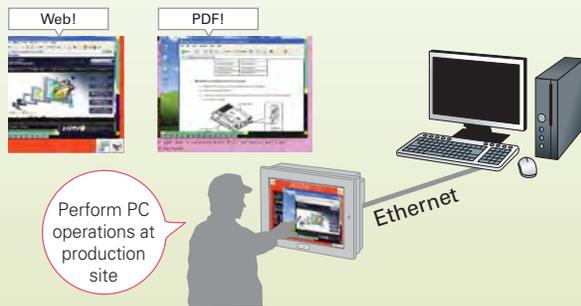
# GP-Pro EX Features

## Remote PC Access (RPA) The Full Power of a PC Available to your HMI over the Internet

Remote PC Access (RPA) brings full PC functionality to a dedicated operator interface. Open any document such as PDFs, CAD, JPEGs, etc. or hot link to the machine builder's web site from the display screen of the operator interface.

### Remote PC Access

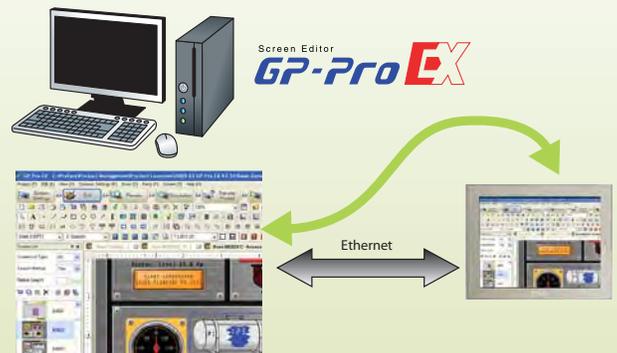
Interact with a remote server PC using the operator interface. The Operator Interface shows the same PC server display on its screen.



Only for Ethernet TFT HMIs with VGA graphics and higher

### Internet, E-mail, Manual Access, etc.

Open any office tools such as outlook, Excel, or Word to write notes or obtain latest machine information.



### Display Remote PC Screen on HMI Screen

Use RPA to launch and control any PC program:

- Access remote server PC using HMI via Ethernet.
- UltraVNC server required to be running on PC.
- View and Control the PC server remotely.
- See the remote PC screen on the Operator Interface.
- HMI touch screen and keypad provide full interaction with remote PC software.

### Application and Benefits

#### Updating Machine Documentation

- Store machine manuals in one location on a remote PC server.
- All HMIs with RPA will automatically see the latest version posted.

#### Design Internet Hot Links to OEM Site

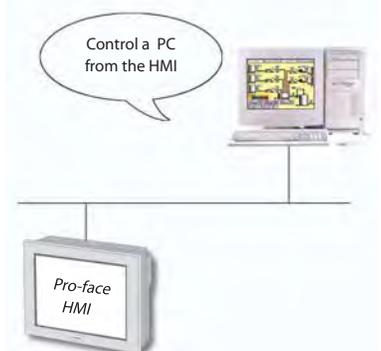
- Create HMI buttons that open up OEM web site to get latest machine updates.

#### Review Work Process and Reports

- Keep current with production changes, supply demand, and productivity reports.

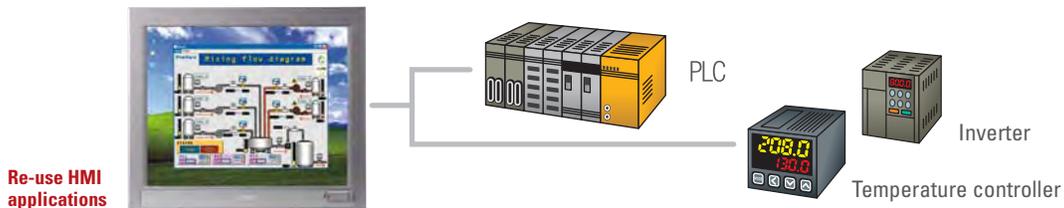
### Using Remote PC Access (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI with Ethernet
Development Software:	GP-Pro EX V3.1 or later
RPA License:	Requires one license for each HMI
Remote PC:	Requires PC running UltraVNC Server (included free on GP-Pro EX CD)
Network Connection:	Open access to HMI static IP address



# WinGP Maximizing Your Industrial Computer Potential

WinGP is runtime software for GP-Pro EX HMI created applications. Pro-face dedicated operator interfaces are quickly installed on an industrial touch screen computer creating an On-Demand Windows-based HMI.



**Run a GP-Pro EX HMI application and communicate with various controllers using a Pro-face industrial computer.**

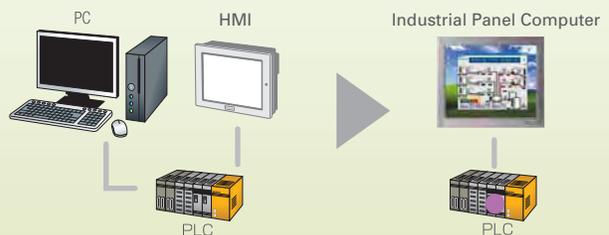
## Pro-face Industrial Computers

UL Class 1 Div 2 certified industrial computers with built-in health monitoring to maximize process uptime. A wide variety of solid state drives, fanless, RAID and other options are available.



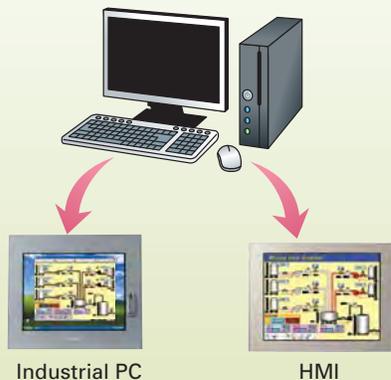
## Reduce System Space

Conventional systems that combine a PC, a graphic operator interface and a PLC can be simplified to an industrial PC and a PLC. Reduced components reduces maintenance time and costs.



## Re-use Existing HMI Applications

Stay flexible with your choice of technology.



## 3rd Party Application Flexibility

Communicate to WinGP runtime using a flexible link to user applications.

### Link to User Database using the Handling API

Enables a user application to receive WinGP status and to change its setup. (Provided as the DLL file).

### Control from User Application using Device Address API

Enables a user application to read/write devices on controllers connected with WinGP. (Provided as the DLL file).

### Supported Languages

• Visual C++ • Visual Basic • C# • VB.NET • VBA

# GP-Pro EX Supported Logic Instruction List

## Basic Instruction

Bit Basic		
Normally Open	NO	
Normally Closed	NC	
Out	OUT	
Negative Out	OUTN	
Set	SET	
Reset	RST	

Pulse Basic		
Positive Transition	PT	
Negative Transition	NT	

Program Control		
Jump	JMP <*P>	-> LABEL NAME
Jump to Subroutine	JSR <*P>	-> SUBROUTINE NAME <
Return	RET	
Repeat number of times (For)	FOR	
Repeat number of times (NEXT)	NEXT	
Inverse	INV	
Exit	EXIT	
Power Bar Control	PBC	
Power Bar Reset	PBR	
Logic Wait Instruction	LWA	

## Timer Instruction

On Delay Timer	TON	
Off Delay Timer	TOF	
Pulse Timer	TP	
Accumulate On Delay Timer	TONA	
Accumulate Off Delay Timer	TOFA	

## Counter Instruction

Up Counter	CTU <*P>	
Down Counter	CTD <*P>	
Up/Down Counter	CTUD <*P>	

## R/W Instruction

Time Read/Write		
Time Read	JRD <*P>	
Time Set	JSET <*P>	
Date Read/Write		
Date Read	NRD <*P>	
Date Set	NSET <*P>	

## Operation Instruction

Arithmetic Operation		
Add	ADD <*P>	
Subtract	SUB <*P>	
Multiplication	MUL <*P>	
Division	DIV <*P>	
Modulation	MOD <*P>	
Increment	INC <*P>	
Decrement	DEC <*P>	

Time Operation		
Time Addition	JADD <*P>	
Time Subtraction	JSUB <*P>	

Logical Operation		
Logical AND	AND <*P>	
Logical OR	OR <*P>	
Logical XOR	XOR <*P>	
Logical NOT	NOT <*P>	

Transfer		
Move (Copy)	MOV <*P>	
Block Move (Block Copy)	BLMV <*P>	
Fill Move	FLMV <*P>	
Exchange	XCH <*P>	

Shift		
Shift Left	SHL <*P>	
Shift Right	SHR <*P>	
Arithmetic Shift Left	SAL <*P>	
Arithmetic Shift Right	SAR <*P>	

Rotation		
Rotate Left	ROL <*P>	
Rotate Right	ROR <*P>	
Rotate Left with Carry Over	RCL <*P>	
Rotate Right with Carry Over	RCR <*P>	

## Function Instruction

Calculate Function		
Sum	SUM <*P>	
Average	AVE <*P>	
Square Root	SQRT <*P>	

## Function Instruction

Calculate Function		
Bit Conut	BCNT <*P>	
PID	PID	

Trigonometric Function		
Sine	SIN <*P>	
Cosine	COS <*P>	
Tangent	TAN <*P>	
Arc Sine	ASIN <*P>	
Arc Cosine	ACOS <*P>	
Arc Tangent	ATAN <*P>	
Cotangent	COT <*P>	

The other Function		
Exponential	EXP <*P>	
Logarithm	LN <*P>	
Log Base 10	LG10 <*P>	

## Compare Instruction

Arithmetic Compare		
Equal	EQ	
Greater Than	GT	
Greater Than Or Equal To	GE	
Less Than	LT	
Less Than Or Equal To	LE	
Not Equal	NE	

Time Compare		
Time Compare Equal	JEQ	
Time Compare Greater Than	JGT	
Time Compare Greater Than Or Equal To	JGE	
Time Compare Less Than	JLT	
Time Compare Less Than Or Equal To	JLE	
Time Compare Not Equal	JNE	

Date Compare		
Date Compare Equal	NEQ	
Date Compare Greater Than	NGT	
Date Compare Greater Than Or Equal To	NGE	
Date Compare Less Than	NLT	

## Compare Instruction

Date Compare		
Date Compare Less Than Or Equal To	NLE	
Date Compare Not Equal	NNE	

## Convert Instruction

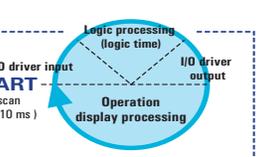
Data Convert		
BCD Convert	BCD <*P>	
BIN Convert	BIN <*P>	
Encode	ENCO <*P>	
Decode	DECO <*P>	
Convert to Radian	RAD <*P>	
Degree Convert	DEG <*P>	
Scale	SCL <*P>	

Type Convert		
Convert Integer to Float	I2F <*P>	
Convert Integer to Real	I2R <*P>	
Convert Float to Integer	F2I <*P>	
Convert Float to Real	F2R <*P>	
Convert Real to Integer	R2I <*P>	
Convert Real to Float	R2F <*P>	
Convert Seconds to Time	H2S <*P>	
Convert Seconds to Time	S2H <*P>	

\* Instructions with <\*P> correspond to positive transition instructions (differential transition). By adding P to the end of each instruction notation (LMP, etc.), you can use the instruction as a positive transition instruction (e.g., JMPP, JSRP, etc.).

## Instructions for I/O driver

STD driver		
Instructions for making changes to pulse output parameters	PLSX	
Instructions for making changes to acceleration/deceleration pulse	PLSY	
Instructions for retrieving pulse output parameters	PLSG	
Instructions for starting pulse output	PLS	
Instructions for stopping pulse output	PLSQ	
Instructions for making changes to PWM output parameters	PWMX	
Instructions for retrieving PWM parameters	PWMG	
Instructions for starting PWM output	PWM	
Instructions for stopping PWM output	PWMQ	
Instructions for making changes to high-speed counter parameters	HSCX	
Instructions for retrieving high-speed counter parameters	HSCG	
Instructions for starting high-speed counter	HSC	
Instructions for stopping high-speed counter	HSCQ	
Instructions for verifying "pulse catch" input	PCH	
Instructions for clearing "pulse catch" input	PCHQ	



### [How to think scan time]

Scan times are composed of a logic program with time for operation and display added because operation/display and logic processing are executed simultaneously by one CPU.  
\*Including scan time error 10%.

### Addresses that are automatically allocated to the devices within GP-Pro EX

Type	Address (Addressing Method)
Bit variable	X0000 ~ X0511
	Y0000 ~ Y0511
	M0000 ~ M7999
Integer variable	I0000 ~ I0127
	Q0000 ~ Q0127
	D0000 ~ D7999
Float variable	F0000 ~ F0127
Real variable	R0000 ~ R0127
Timer variable	T0000 ~ T0511
Counter variable	C0000 ~ C0511
Date variable	N0000 ~ N0063
Time variable	J0000 ~ J0063
PID variable	U0000 ~ U0007



# Pro-Server EX Features

Data management software

# Pro-Server EX

## Enhanced data collection and connectivity software

### ✓ Applications

- Share data with production and maintenance groups
- Share HMI data with another HMI
  - Peer-to-peer
- Write/log data to/from PLC
- Send instant e-mail alerts
- Collect and write data to Excel®, CSV or databases

### ✓ Collect and manage data

- Up-to-the-minute production data
- Upstream status information
- Necessary raw material requirements
- Snapshot images of machine faults or instructions

### ✓ Connectivity Support

- OPC DA server
- DDE
- DLL
- API (VB, VB.NET, VC, C#.NET)
- Access™ / Excel®
- ODBC, SQL, Oracle
- E-mail via SMTP
- MES actions

**Collect and view up-to-the-minute, accurate data to optimize your productivity.**

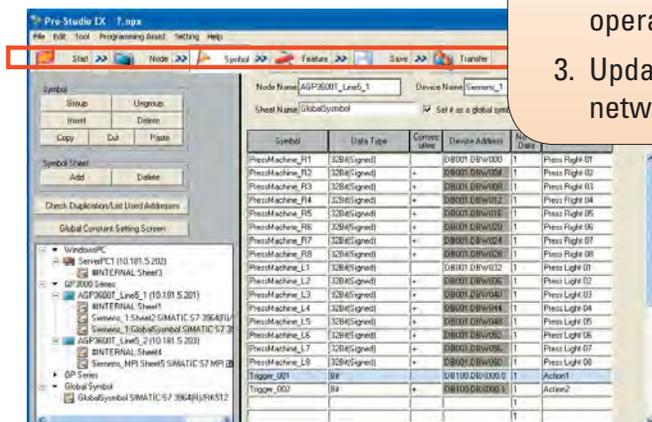
## Information where you want it, when you want it

- ✓ Data collection/management
- ✓ Reporting
- ✓ Data sharing
- ✓ Remote IPC health monitoring
- ✓ Enterprise integration
- ✓ Save thousands of dollars per year

### No programming required

1. Select data
2. Choose data operation
3. Update network

## Fast and simple

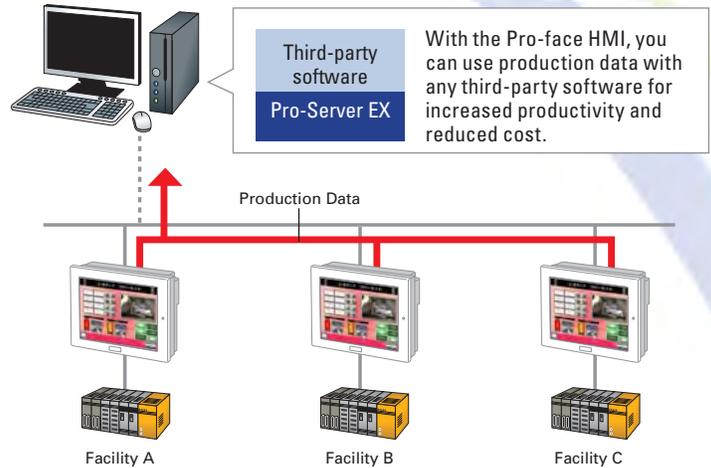


- ✓ Fill in the blank data configuration, no programming!
- ✓ Built-in templates save you time and get you started quickly
- ✓ Share data with Windows®-based applications
- ✓ Automatically puts DDE scripts into clipboard, ready to paste directly into Excel®

# Pro-Server EX Features

## Data collection/management

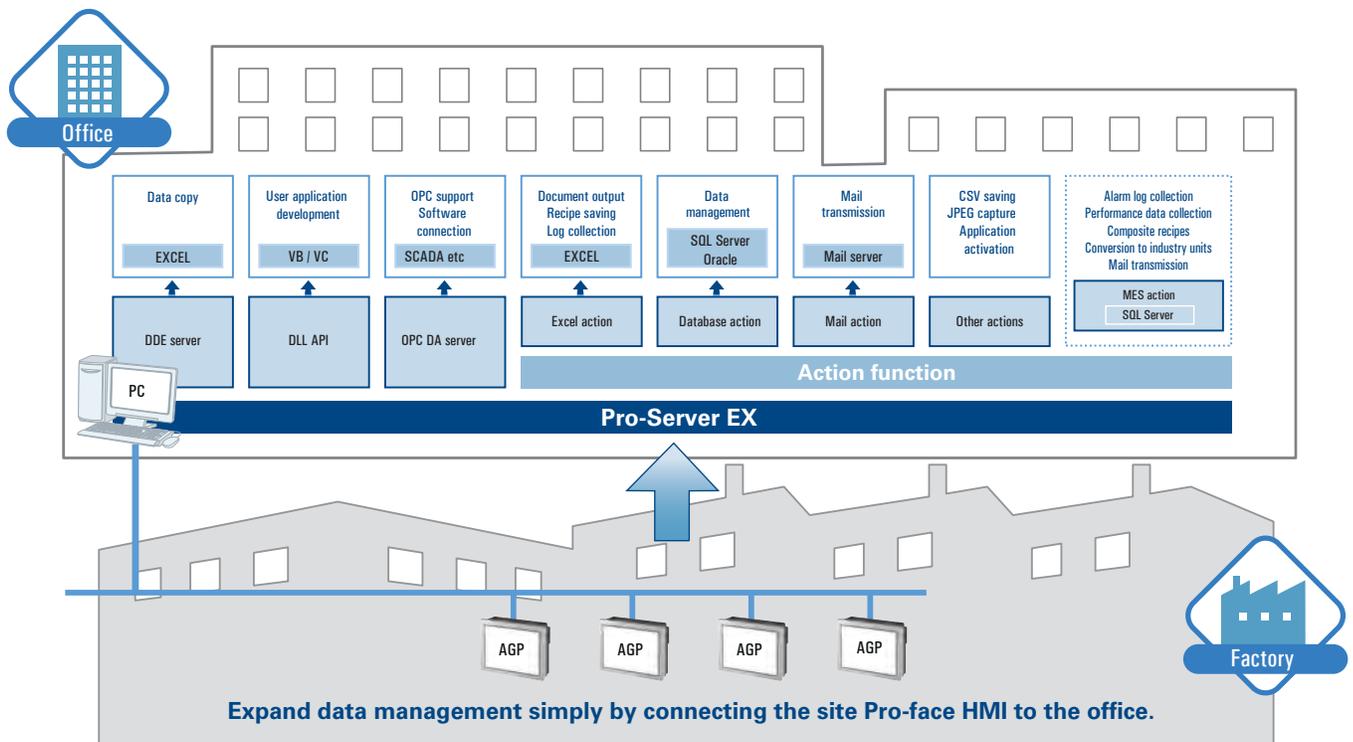
- Collect data on a remote server
- In plant or across the Internet
- Send data to another department or around the world in real-time
- Update recipes/production parameters remotely
- No more clipboard collection of data



## Enterprise integration

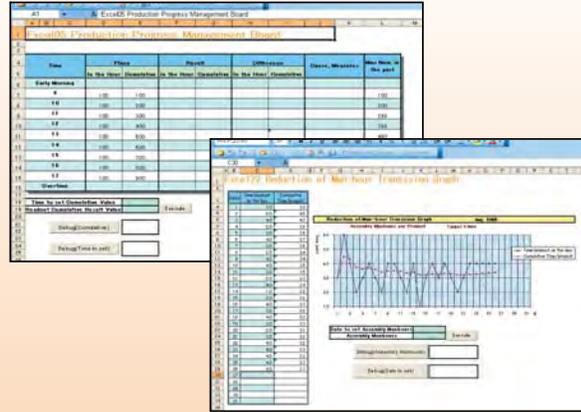
- Connect to existing enterprise system
- Enhance existing designs
- Use common communication methods

✓ OPC DA server	✓ DDE
✓ API (VB, VB.NET, VC, C#.NET)	✓ DLL
✓ Access™/Excel®	✓ ODBC, SQL, Oracle
✓ Image management	✓ PC health
✓ E-mail via SMTP	✓ MES



## Reporting

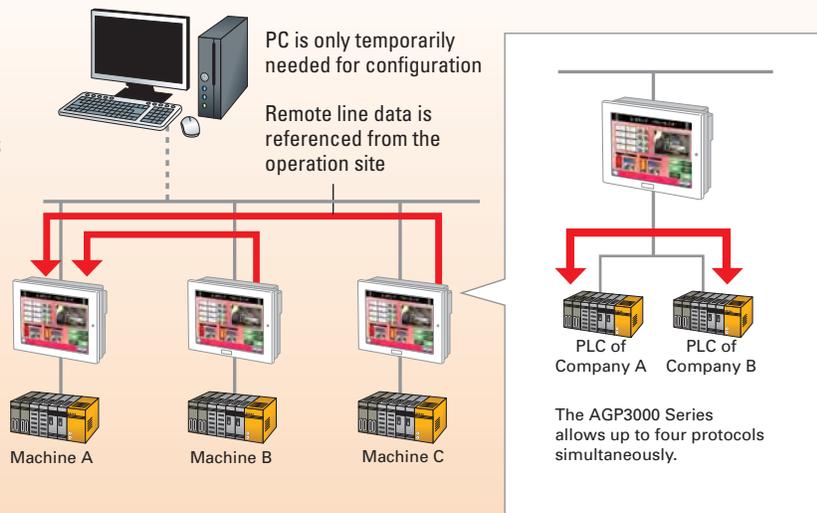
- Includes 29 easy-to-use Excel® report templates
  - ✓ Daily / monthly / yearly reports
  - ✓ Shift downtime
  - ✓ Failure data rates
  - ✓ Preparation time graphs
  - ✓ Task planning
  - ✓ Manage work progress



## Data sharing – Interdevice communication

Use Pro-Server to set up inter-device communication between Pro-face HMIs allowing data to be shared with multi-vendor devices regardless of the type of data or control device.

- Enable peer-to-peer data sharing
- Act as a gateway between HMIs or different brand PLCs
- Send build data directly from one HMI to the next

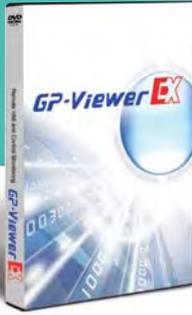


**Across the plant or across the world,  
Pro-face data management solutions will work for you!**

Data management software

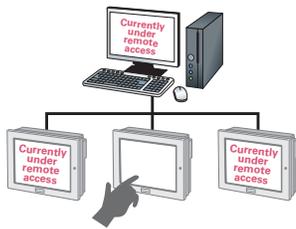
**Pro-Server EX**

# GP-Viewer EX



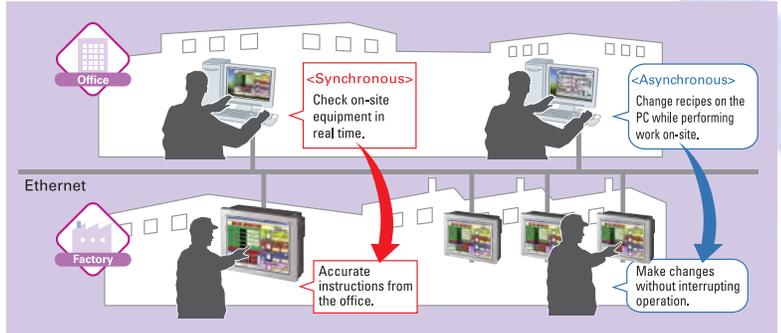
GP Viewer software is an ideal tool to service and support multiple locations from the main office. GP-Viewer allows monitoring of machine operators from a remote PC. See exactly what they see displayed on the HMI screen. Not only monitor, but have the ability to take control of operations for training and diagnostic purposes.

## Remote Monitoring Software GP-Viewer EX



### Lock Out Feature Prevents Operational Errors

Prevent operational errors by the operator by locking operations other than for "in us" indicator by remote PC.



### Monitor and Train Machine Operators

Walk operators through the exact procedures to operate the machine safely. Provide as an ongoing service and support function for OEMs and Integrators.

### Machine Diagnostic Servicing

GP-Viewer allows you to check diagnostic data on other screens without interfering with the operator. Make updates to optimize quality and performance.

### GP-Viewer Functionality

#### Use RPA to launch and control any PC program:

- Capability as if you were in front of the HMI.
- Update HMI Security Settings for Safety and unauthorized access.
- Upload Diagnostic data such as alarms, operation log, event recorder video.
- Analyze logged data and make adjustments.
- Upload and download operational data.
- Training Videos, Recipe Data, and Multi-language updates.

### Application and Benefits

#### Monitor Machine Operators

- View Operators while they are working to ensure procedures are being followed.

#### Take Control of HMI from Remote Location

- Service the machine without the expense of traveling to the site location.
- Control 4 HMIs simultaneously from your PC.

#### View Protected Diagnostic Screens

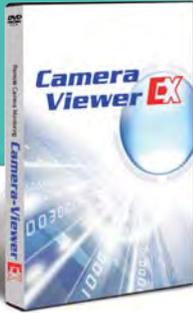
- Gather maintenance data without interrupting the machine operator.

### Using GP Viewer (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI with Ethernet
Development Software:	GP-Pro EX V3.1 or later
GP-Viewer EX License:	Requires a license installed on each HMI
GP-Viewer EX Software:	Found on GP-Pro EX CD. (Runs on Windows-based PC/AT computer)
Network Connection:	Open access to HMI static IP address



# Camera-Viewer EX

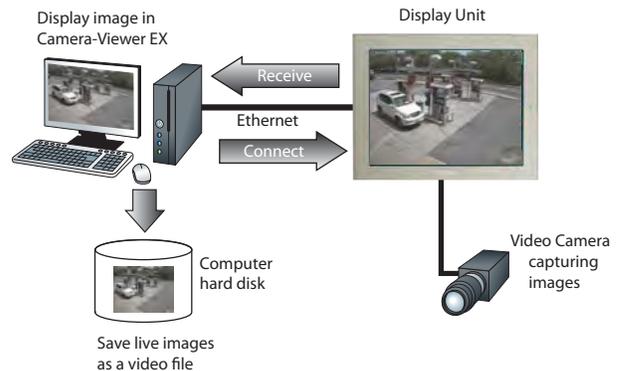


Camera Viewer software is a valuable software program which allows you to view streaming video from a remote PC. See exactly what is happening at the operation site. Display, record, and playback. Ethernet connection makes it easy and affordable to monitor and service from multiple support locations.

Remote Camera Monitoring

## Camera-Viewer EX

New hardware purchases are unnecessary when Camera Viewer EX leverages your existing control architecture for streaming video. This translates into significant cost savings for those wishing to remotely access, control, and view live video.



### Increase Security and Safety

Live video feed allows you to monitor the industrial site and record who accessed the area. Bring the image from hard to reach, or dangerous areas safely back to your home offices.

### Remote Diagnostics

Reduce travel cost and machine shutdown time with Camera Viewer EX. From a remote location, instantly watch video of disturbances and provide diagnostic servicing of equipment.

### Camera-Viewer Functionality

#### Remote Monitoring

View live streaming video from a multimedia HMI on your PC.

#### Record & Playback

Record live video on your HMI, playback the recordings on your remote PC or the HMI itself.

**Search for files by date & time recorded.**

### Application and Benefits

#### Monitor Machine Site

- Another way to view operations while away to ensure policies are followed.
- Walk operators through instructions.

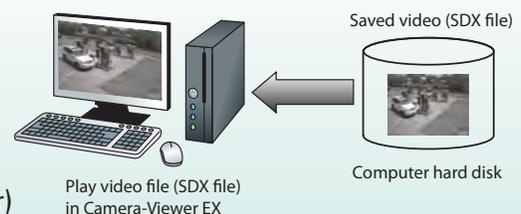
#### Safety and Security

- Diagnose issues quickly through recordings.
- View hard to reach or dangerous areas or monitor access to machines or locations.

**No new hardware purchases necessary!**

### Using Camera Viewer (Tools Required)

Operator Interface:	AGP3000 or GP4000 Series HMI
Development Software:	GP-Pro EX V3.1 or later
GP-Viewer EX License:	Requires a license installed on each HMI
GP-Viewer EX Software:	Found on GP-Pro EX CD. (Runs on Windows-based PC/AT computer)
Network Connection:	Open access to HMI static IP address



# Third-Party Driver Support

## PLC Drivers

### Rockwell Automation

DF1  
DH-485  
EtherNet/IP:  
 ✓ SLC500/PLC5/MicroLogix  
 ✓ ControlLogix/CompactLogix  
 (Native-Tag base)  
 DeviceNet Slave

### Siemens AG

SIMATIC S7 3964(R)/RK512  
 SIMATIC S7 MPI Direct  
 SIMATIC S7 Ethernet  
 SIMATIC S5 CPU Direct  
 SIMATIC S5 3964(R)  
 PROFIBUS DP Slave

### GE Fanuc Automation

Series 90 Ethernet (SRTP)  
 Series 90-30/70 SNP  
 Series 90-30/70 SNP-X

### Schneider Electric

Modbus Master (SIO or TCP)  
 Modbus Slave (SIO or TCP)  
 Modbus Plus  
 Uni-Telway

### Modbus IDA

General Modbus RTU Master (SIO)  
 General Modbus TCP Master  
 (Ethernet)

### Control Technologies Corp.

Emerson Process Control  
**FANUC**  
 FATEK Automation Corporation  
 Fuji Electric Corp.  
 Hitachi Ind. Equipment Systems  
 Hyundai Heavy Industries  
**KEYENCE Corp.**  
 Koyo Electronics Co. Ltd.  
**LS Industrial Systems**  
 Matsushita Electric Works  
 Meidensha  
 Mitsubishi Electric Corp.  
 Mitsubishi Heavy Industries  
**M-System**  
**OMRON Corp.**  
 Panasonic Electric Works  
 Saia-Burgess Controls  
 Sanmei Electronics Co., Ltd.  
**Sharp MS Corp.**  
 Toshiba  
 Toshiba Machine  
 Toyoda Machine Works  
 Yamatake  
**YASKAWA Electric Corp.**  
**YOKOGAWA Electric Corp.**

## Temperature Controllers

CHINO Corporation  
 Fuji Electric Systems Co., Ltd.  
**OMRON Corp.**  
 RKC Instrument  
 Shinko Technos Co. Ltd.  
 Yamatake Corp.  
 Yokogawa M&C

## Fieldbus Module

CAN in Automation  
 CC-Link Partner Association  
 ODVA  
 PROFIBUS International

## Vision Systems

Banner Engineering Corp.  
**COGNEX**

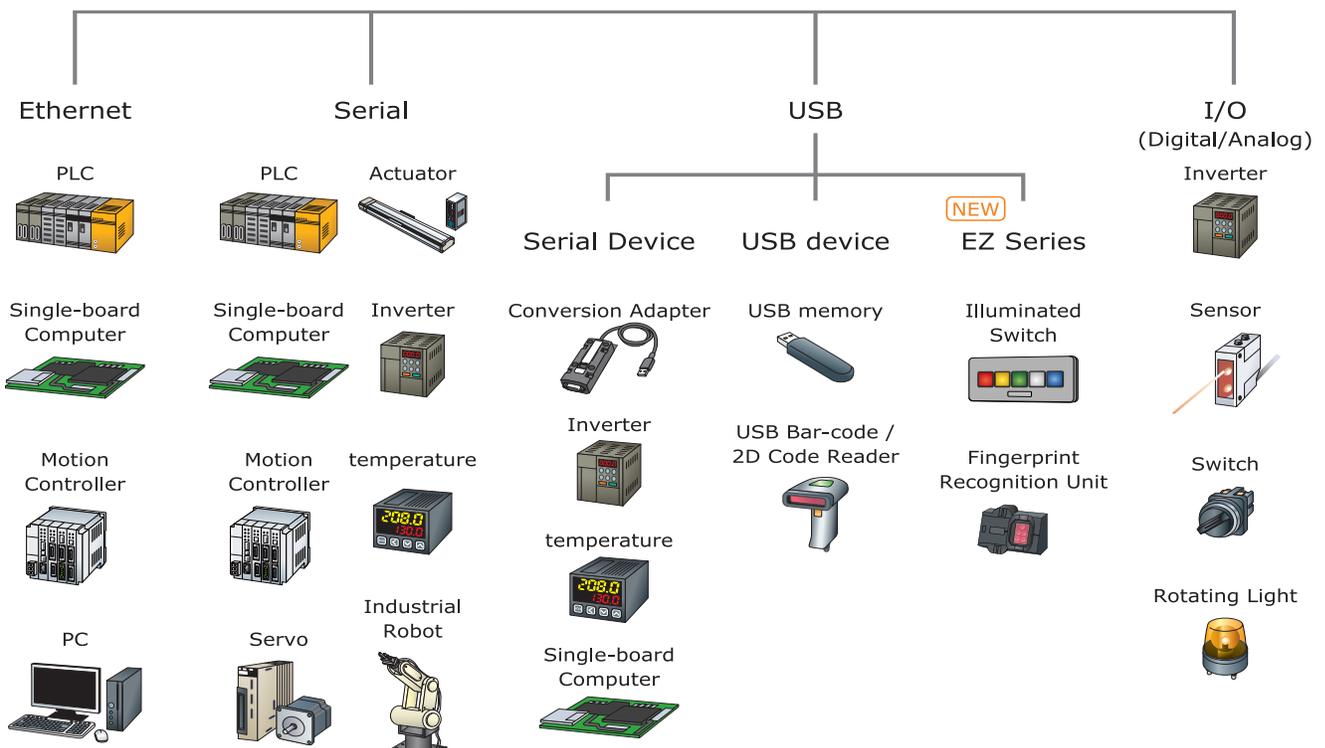
## Robot Controllers

GE Fanuc Automation  
 Hyundai Heavy Industries  
 IAI Corporation

## Inverters

Fuji Electric Corp.  
 Hitachi IES Co., Ltd.  
 Mitsubishi Electric Corporation  
**YASKAWA Electric Corp.**

We support Barcode scanners, 2-D Readers, and Printers from companies such as Aimex Corp., OPT Electronics, Denso Co., HHP, Cognex, Symbol, Epson, NEC, and more!



The World Leader in Third-Party Driver Support

# Operating Environment

## ● GP-Pro EX

<b>OS</b>	Windows® XP (Home, Professional), Windows Vista® (Ultimate, Home Premium & Basic, Business), Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business) *For the installation of this product, administrator rights are required.
<b>CPU</b>	Windows Vista®: Pentium® 4 (1GHz or greater) Other than Windows Vista®: Pentium® III 800MHz or greater (Pentium® 4 1.3GHz or greater recommended)
<b>Resolution</b>	SVGA 800 X 600 or better (256 colors or greater required)
<b>Memory</b>	Windows Vista® 1GB or greater (2GB or greater recommended) Other than Windows Vista® 512MB or greater (1GB or greater recommended)
<b>Hard Disk Space</b>	720MB or greater *Free space necessary for installation
<b>Language</b>	<b>Software Menu</b>
	<b>Languages that Hardware can Display</b>
<b>FEP for Languages</b>	Those supported by OS described above.
<b>Other</b>	.NET Framework Ver. 2.0 * On a PC without .NET Framework Ver. 2.0, this product is automatically installed.
	Microsoft® Internet Explorer Ver. 6.0 or later
	Adobe Reader® Ver. 6.0.2 or later Mouse (absolutely necessary), CD-ROM drive (necessary only for software installation) and printer (supported by the OS above) An environment where you are connected to the Internet * Only necessary for online user registration and online update service

\*Please address inquiries about the site license to a sales representative.  
\*A USB port or Ethernet port is required to transfer screens on a PC.

## ● Transfer Tool (Only necessary for Transfer Tool installation)

<b>OS</b>	Windows® 98 (Second Edition or later), Windows® Me, Windows Vista® (Ultimate, Home Premium, Home Basic, Business), Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business) *For the installation of this product, administrator rights are required.
<b>CPU</b>	Windows Vista®: Pentium® 4 1GHz or greater recommended Other than Windows Vista®: Pentium® II 266MHz or greater recommended
<b>Memory</b>	128MB or greater (512MB or greater recommended)
<b>Hard Disk Space</b>	135MB or greater *Free space necessary for installation
<b>Other</b>	Mouse (absolutely necessary), CD-ROM drive (necessary only for software installation) and printer (supported by the OS above)

\*A USB port or Ethernet port is required to transfer screens on a PC.

## ● Pass-Through

<b>OS</b>	Windows® XP (Service Pack 2 or greater), Windows Vista® (Ultimate, Home Premium & Basic, Business), Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business)
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## ● Web Server

<b>OS</b>	Windows® XP 32-bit (Service Pack 2), Windows Vista® (Ultimate, Home Premium, Home Basic, Business, Enterprise) Windows® Server2003 (Service Pack 2) Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business)
<b>Supported Browser</b>	Microsoft® Internet Explorer Ver.6.0 or 7.0
<b>Screen Resolution</b>	XGA 1024 X 768 or greater

## ● Pro-Server EX

<b>OS</b>	Windows® XP (Home Edition, Professional), Windows® Server 2003 (For the installation of this product, administrator rights are required), Windows Vista® (Ultimate, Home Premium & Basic, Business), Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business)
<b>CPU</b>	Pentium® III 500MHz or greater (Pentium® III 800MHz or greater recommended)
<b>Resolution</b>	SVGA 800 X 600 or greater (256 colors or greater required), only 96dpi font
<b>Memory</b>	128MB or greater (256MB or greater recommended)
<b>Hard Disk Space</b>	1GB or greater (2GB or greater recommended) *Free space necessary for installation
<b>Language</b>	English/Japanese
<b>FEP for Languages</b>	Those supported by OS described above.
<b>Other Software</b>	Microsoft® Excel 2000-2007 (for setting the action function)
	Microsoft® Access 2000-2007 (for setting the action function)
	Microsoft® Internet Explorer Ver.5.0 or later (for setting the action function) .NET Framework Ver.1.1 (Service Pack 1)
<b>Printer</b>	Any printer if it is supported by the OS
<b>Network Adapter</b>	10BASE-T, 100BASE-TX
<b>Network Configuration</b>	TCP/IP protocol (Configure from "Control Panel" in Windows®)

## ● GP-Viewer EX

<b>OS</b>	Windows® XP (Service Pack 2), Windows Vista® (Ultimate, Home Premium, Home Basic, Business, Enterprise) Windows® Server 2003 (Service Pack 2), Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business)
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## ● Camera-Viewer EX

<b>OS</b>	Windows® XP (All editions, SP2 or later, 32 bit) Windows Vista® (All editions, SP1 or later, 32 bit) Windows® 7 (All editions, 32 bit) Windows® Server 2003 (Standard or Enterprise Edition, SP1 or later, 32 bit) Windows® Server 2003 R2 (Standard or Enterprise Edition, SP1 or later, 32 bit) Supported OS languages are Japanese, English, Chinese (Simplified), Chinese (Traditional), and Korean
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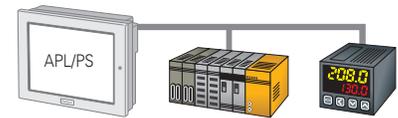
## ● WinGP GP-Pro EX Runtime for Pro-face Industrial PCs

<b>OS</b>	Windows® XP Professional, Windows® XP Embedded Windows® 7 32-bit/64-bit (Ultimate, Home Premium & Basic, Business)
<b>Memory</b>	256MB or greater (512MB or greater recommended)

## ● WinGP GP-Pro EX Runtime for 3rd party Industrial PCs

<b>OS</b>	Windows® XP (Home Edition, Professional), Windows Vista® (Ultimate, Home Premium, & Basic, Business, Enterprise) 32bit, Windows® 7 32-bit/64-bit (all editions)
<b>CPU</b>	Pentium® M 1GHz or greater recommended
<b>Display Resolution</b>	SVGA 800*600 or better
<b>Memory</b>	Windows Vista®: 1GB or greater (2GB or greater recommended) Other than Windows Vista®: 512MB or greater (1GB or greater recommended)
<b>Hard Disk Space</b>	200MB or greater

WinGP allows the same GP-Pro EX application to run on an industrial PC. Makes PC act as an On-Demand Operator Interface.



## ● Remote PC Access (RPA)

<b>OS</b>	Visit <a href="http://www.uvnc.com/">http://www.uvnc.com/</a>
<b>Other</b>	GP-Pro EX (Ver. 2.0 or later), RPA Keycode (EX-RPA (Sold separately)), Ultra VNC Ver. 1.0.2 should be installed on the PCs on the server, LAN cable, HUB (Commercially available). * Connect one server to one GP.

## ● Movie Converter (EX-MOVCON-LICENSE)

<b>OS</b>	Windows® 2000 (Service Pack 4 or later), Windows® XP (Home Edition, Professional (Service Pack 2 or later))
<b>CPU</b>	Pentium® III 1GHz or greater recommended
<b>Memory</b>	512MB or greater
<b>Hard Disk Space</b>	60MB or greater *Free space necessary for installation
<b>Other</b>	Mouse (absolutely necessary), CD-ROM drive (necessary only for software installation) Windows® Media Player 9.0, Direct X9.0c

Movie files that can be converted with the movie converter are different depending on the PCs used for conversion. Some codecs are equipped as standard in video/audio players such as Windows® Media Player. When installing the movie converter in an environment just after purchasing a PC, you can convert movie files described above to SDX. For movie files that cannot be converted to SDX, you may be able to convert these files by installing their codecs separately (\*).

File format (Extension)	Video codec	Audio codec
AVI	Uncompressed (RGB)	Uncompressed (PCM)
AVI	DV-1	DV Audio
WMV	WMV9	WMA9
MPG	MPEG-1	MPEG-1 Layer-2

\*In order to convert movie files, first, you need to install the codec of the movie file to be converted on a PC for conversion. We have confirmed the conversion of the following movie files to SDX on a PC with Ulead Video Studio 9 installed.

File format (Extension)	Video codec	Audio codec
AVI	DV-2	DV Audio
MPG	MPEG-2	MPEG-1 Layer-2
ASF	SD-Video (MPEG-4)	G.726

Ulead Video Studio 9 (<http://www.ulead.co.jp/product/videostudio9/>)  
\* For installation and use, a license is required. Purchase the license separately.

Note1) The environment recommended by the OS used, or a superior environment, is required for CPU/memory.  
Note2) Partial restrictions available when using Windows Vista with Pro-Server EX. Check Website for details.

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