

Pro-face

for the best interface

40
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AGP3000 Series

Advanced Operator Interface



Corporate Overview

Pro-face America

HMI Solutions Overview

Total HMI Solutions Package

HMI Software

GP-Pro EX

Data Management Software

Pro-Server EX

Operator Interface & Operator Interface Plus Control

AGP3000 Series

AST3000 Series

LT3000 Series

HMI Connectivity

Drivers and Accessories

Third-Party Support

About Pro-face

Pro-face

for the best interface

**Globally Recognized,
Globally Supported,
Globally Trusted.**



- We are the leading independent global supplier of industrial computing and visualization solutions for automation and manufacturing applications.
- We are recognized worldwide for innovative designs with the industry's highest quality and reliability.
- We offer the most extensive product offering of HMI touch screens available with the highest levels of system and network connectivity.

Pro-face: A Company You Can Depend On

- More than 35 years providing industrial Human Machine Interface (HMI) technology
- Pro-face and Xycom brands: the most trusted names in the industry
- Worldwide applications support teams ready to help you
- Serving more than 50 countries, Pro-face has 17 main offices with 1200+ employees
- We speak your language:
English, Spanish, Japanese
- We have a vast distribution network to provide products quickly anywhere



Pro-face

for the best interface

Operator Interfaces, Industrial PCs & Monitors

Right-size, Right-technology Visualization Solutions

A Choice of HMI Technology Solutions

Dedicated Operator Interfaces

- Performance-built, factory workhorse graphical touch screens
- Extensive hardware and software connectivity
- Use for maximum reliability and dependability of HMI applications
- 100% solid-state design



The Right HMI for the Right Application

Open-Platform Industrial PCs

- Windows® XP, 2000-based industrial PC touch-screen systems
- Built to withstand high-vibration, -shock and -temperature environments
- Built-in redundancy using RAID-enabled option
- New innovative technology sends alert when PC system status is out of tolerance
- Solid-state drive options available

Operator Interface Plus Control

- Combined operator interface and PLC logic control in one package
- Supported by one software package
- Offers significant reduction in system cost and panel space
- Ultra-low maintenance



Flat-Panel Touch-Screen Monitors

- Highly detailed graphical interface with built-in touch screen
- Sizes from 10" to 19" plus built-in keypad option on some models
- Sleek, innovative styling
- Global certifications and ratings

Investment Protection

Built into every unit is investment protection. Our investment protection is all about keeping your machine current with the latest technologies while minimizing migration costs and disruptions to the existing installation.

Minimize your total cost of ownership:

- Pro-face and Xycom brand products have maintained cutout compatibility for more than 21 years
- Upgrade your machine with more capabilities without altering the original design
- Recognized by the industry for providing significant savings to our customers
- It's all included – no product migration service contracts required

No other industrial PC and operator interface supplier can guarantee long-term investment protection value backed by a 21-year track record.

Lowering your total cost of ownership!



Celebrating more than 21 years of cutout compatibility!

More Than an Operator Interface...

HMI Solutions for OEMs, System Integrators and End Users

OEM/System Integrator

Design

- Tools for rapid development
- Integrated solution
- Multiplatform development software
- Data management software

After-the-sale support

- Remote servicing
- Extensive diagnostic features

HMI for standalone machines



HMI for extensive networking

**Work smarter,
be informed,
make the
right choices**

Instructional HMI for a safe
and informed workforce

An Enterprise-Wide Solution

Remote Access, Monitoring and Maintenance



On-demand operator interface
Windows®-based HMIs

See the entire facility
through your HMIs



Enterprise Connectivity

End User

Production

- Increase productivity
- Decrease downtime
- Efficient maintenance
- Train/educate operators

Management

- Planning/scheduling
- Reporting
- Continuous improvement
- Make informed decisions

Innovative Operator Interface Solutions

Extensive Family of Operator Interface Solutions



✓ All the standard HMI features you expect and more . . .

- High-reliability graphic touch screens
- Sizes from 3.8" to 15" (more than 75 units)
- Direct camera input, view live video, capture images
- USB and CompactFlash® ports
- 10/100 Base-T
- RS-232/422/485 and MPI serial ports
- Up to four active protocols simultaneously

Advanced Solutions

✓ Extensive features, including:

- Built-in security tracks system changes by user ID
- Event recorder captures video of machine faults
- Device gateway: share data between different PLC vendors and other fieldbus equipment using the AGP3000 operator interface
- Built-in logic control eliminates PLC while cutting system costs
- Built-in discrete and distributed I/O options
- Real-time logic and device monitoring features help diagnose system problems

Remote PC Access Solutions

✓ RPA

- Use AGP3000 operator interface to access and control a remote computer/server
- View PDF, CAD, DOC, XLS 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 for machine updates
- Remotely monitor SCADA programs while reducing SCADA licensing costs

Third-Party Device Support Solutions

✓ More than 100 drivers supported, including:

- AB native tag support for EtherNet/IP
- Modbus, Modbus Plus and Modbus/TCP
- Siemens, including PROFIBUS and MPI
- GE serial and ethernet
- Mitsubishi, Automation Direct/Koyo, Omron
- Bar-code and 2-D readers
- PLCs, temperature controllers, inverters and drives
- Fieldbus support: CANopen, DeviceNet

And many more . . .

From the Factory Floor to the Co

AGP3000 Operator Interfaces & LT3000 Logic Controllers



Advanced HMI Development

- ✓ One HMI development package
- ✓ Includes built-in logic editor for HMI Plus Control models
- ✓ Multiplatform solution: Supports both dedicated operator interfaces and open-platform industrial PCs



A complete, out-of-the-box, mul

Corporate Enterprise and Beyond



Enterprise-wide Data Management

- ✓ Cost-effective data connectivity solution
- ✓ Data collection and data sharing
- ✓ Internet data access and monitoring



Data management software

Pro-Server EX

tiplatform HMI solution package

Enterprise-wide Data Management Solutions

- ✓ **Pro-Server EX**
 - Use Pro-Server EX to enable multiple AGP HMI units to share PLC, fieldbus or HMI data over an ethernet network
 - Upload log data, recipes, images and production data to a back-office computer/server
 - Integrate shared data into Excel®, Access™ or ODBC databases, such as Oracle, wherever it is needed in the enterprise
 - Supports DDE, DLL, Access™, Excel®, OPC, SMTP e-mail, ODBC, SQL, MES and API interfaces
 - Pro-Server includes 29 predefined Excel® productivity reports
 - Use Pro-Server's API to integrate HMI data into your in-house Visual Studio™ application
 - Take advantage of instant health-alert system from select Pro-face industrial computers, reducing unscheduled system shutdowns

Internet-Based HMI Solutions

- ✓ **FTP server (built-in for ethernet models)**
 - Upload or download recipes, log files, sampling data, images, etc. to AGP CompactFlash® or USB memory device using a Web browser or FTP client
 - Secured file access using user ID and password features
 - Reduce travel costs by making maintenance changes remotely without having to be on-site
- ✓ **Web server (built-in for ethernet models)**
 - View active and historical alarms
 - Modify PLC tag or HMI symbol values
 - Use RSS alarm feed feature. Sends alarm data updates to you without the need to be logged into the AGP HMI unit.
 - View AGP HMI driver and runtime versions
 - Launch an FTP connection to the AGP to download or upload files
 - Launch GP-Viewer EX (if installed)
- ✓ **Remote access and control (GP-Viewer EX)**
 - Monitor, interact and control multiple AGP operator interfaces on a factory floor from a remote PC
 - View the same or different AGP HMI screens as the local operator
 - Remotely view production line status or diagnose problems without expense of traveling to site
 - Used as a remote operator training tool by equipment builders

Easy Maintenance Solutions

Update AGP3000 units in the field using multiple cost-effective methods. Updates can be done in the field without need for software on-site.

- ✓ **Updating field-installed HMIs**
 - Via USB memory device or CompactFlash® memory card
 - Via ethernet, USB cable, modem, serial port

Powerful Networking at Your Fingertips

HMI software solutions

Screen Editor
GP-Pro EX

Friendly HMI development environment software

GP-Pro EX software supports:

- All AGP3000 units
- All LT3000 units
- All AST3000 units
- Built-in logic editor for C-Class models
- PS3000 with WinGP



Pro-Server EX

Enterprise-wide data collecting, sharing, connectivity solution

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



✓ GP-Viewer EX

- Remotely monitor and control HMI screens from the Internet or via an intranet

✓ WinGP

- On-demand operator interfaces
- GP-Pro EX runtime for Pro-face PS3000 Windows®-based PCs

✓ RPA software

- Harness the power of a PC through your dedicated HMI
- Access files and documentation located on a remote PC

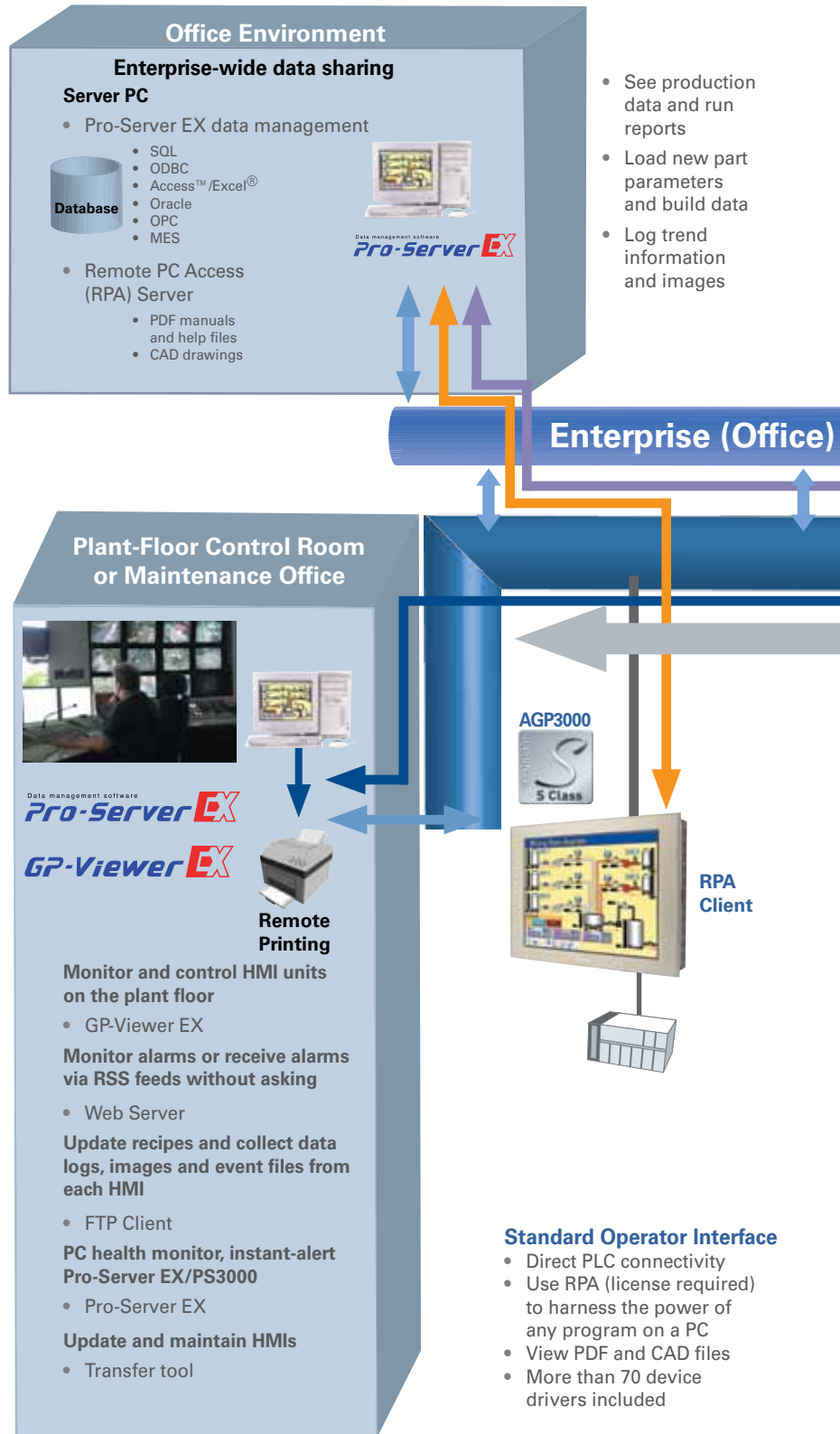
✓ Movie converter

- Convert training and maintenance videos for viewing on AGP3000 displays

✓ MES license software

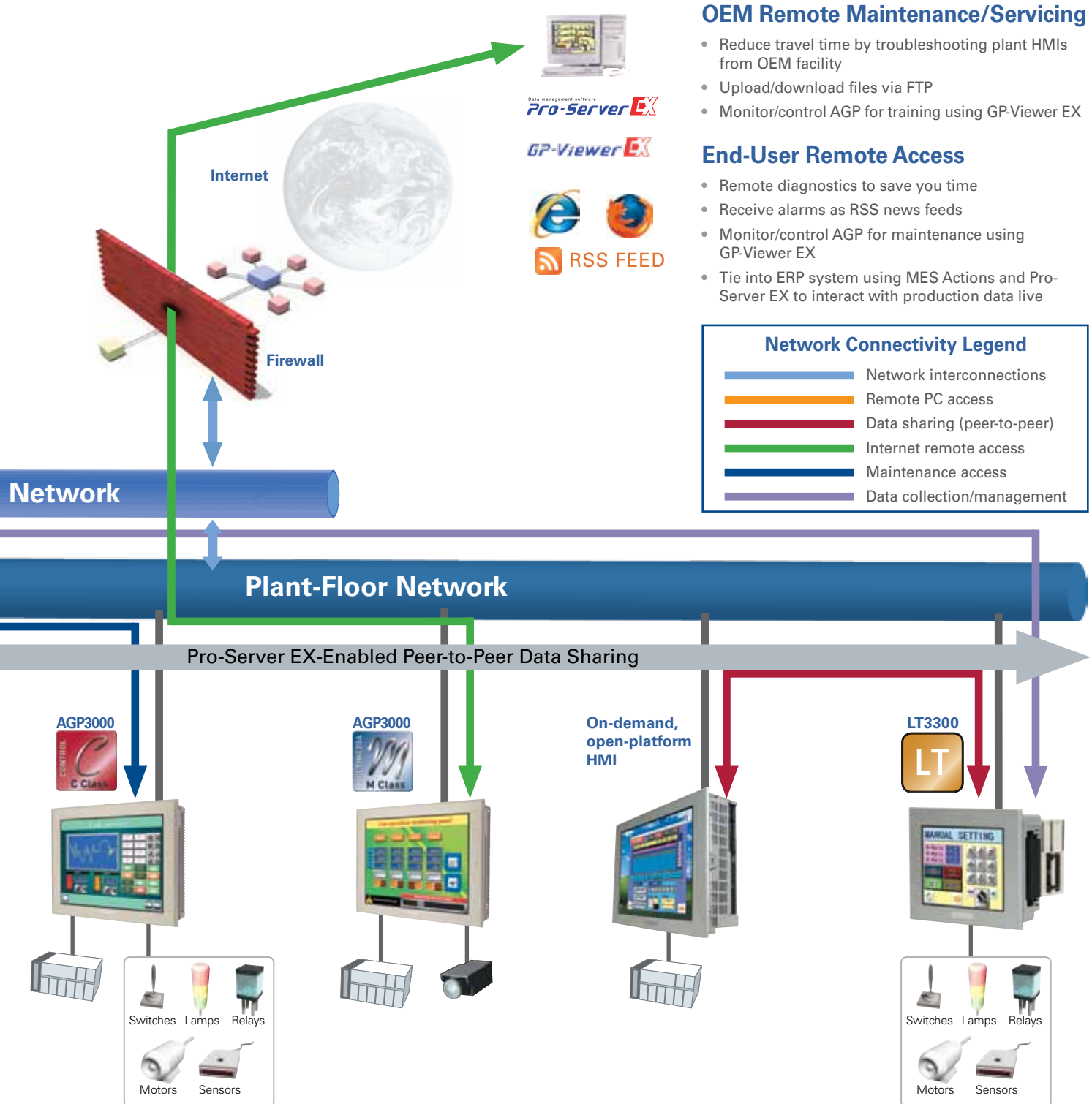
- Manufacturing Execution System license for Pro-Server EX

Right technology, right solutions



- See production data and run reports
- Load new part parameters and build data
- Log trend information and images

- Standard Operator Interface**
- Direct PLC connectivity
 - Use RPA (license required) to harness the power of any program on a PC
 - View PDF and CAD files
 - More than 70 device drivers included



OEM Remote Maintenance/Serviceing

- Reduce travel time by troubleshooting plant HMIs from OEM facility
- Upload/download files via FTP
- Monitor/control AGP for training using GP-Viewer EX

End-User Remote Access

- Remote diagnostics to save you time
- Receive alarms as RSS news feeds
- Monitor/control AGP for maintenance using GP-Viewer EX
- Tie into ERP system using MES Actions and Pro-Server EX to interact with production data live

Network Connectivity Legend

- Network interconnections
- Remote PC access
- Data sharing (peer-to-peer)
- Internet remote access
- Maintenance access
- Data collection/management

Operator Interface Plus Control

- Lower installation and setup costs
- Built-in ladder logic to enhance or replace the PLC
- Logic to reduce PLC processor loading

Operator Interface Plus Multimedia

- Video recording and playback across the network
- Inform operators and keep them safe

Open-Platform HMI: WinGP

- Pro-face PS3000 Series with WinGP
- Direct PLC connectivity
- Interact with Windows programs
- Perform "data concentrator" functions
- Instant-alert PC health monitoring

Standalone Operator Interface Plus Control

- Built-in and expansion I/O to replace the PLC
- Operator interface functions
- Powerful data collection

Building a Complete HMI Solution

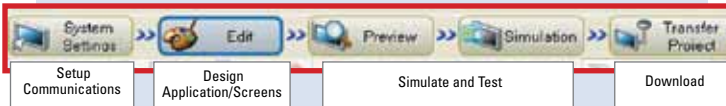
Start With the HMI Development Software

Development

Create Your Application
in Minutes

Easy as 1, 2, 3, 4

Four Simple Steps



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

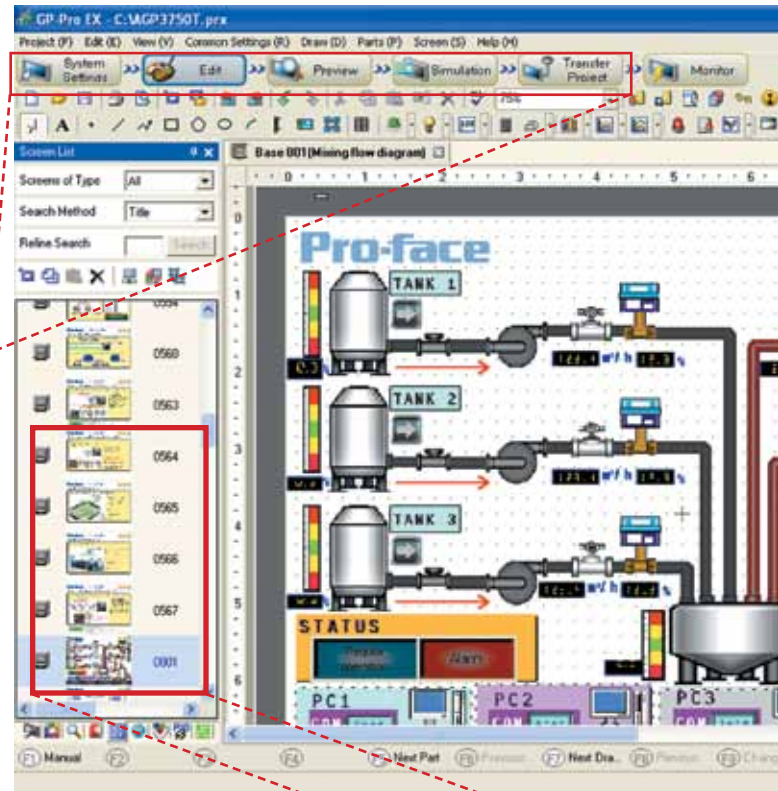
- Drag-and-drop addressing, parts and colors
- Efficient features to reduce development time
- Create consistent look and feel using the user-defined templates

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



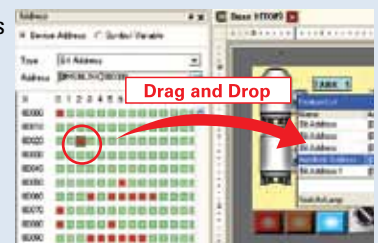
Thumbnail View

- 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



GP-Pro EX

Intuitive HMI Screen Development Editor

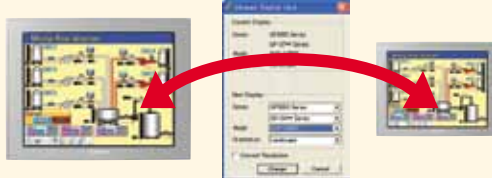
Extensive Time-Saving Features

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



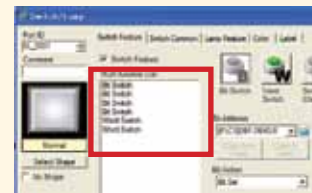
Headers and Footers

- 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.



Built-in Flexibility

Development

Property Window

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



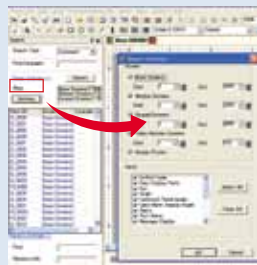
Templates

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



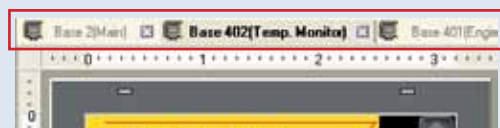
Search and Replace

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



Tabbed Interface

- Just like your Internet browser, tabs allow you to keep multiple screens, settings and other windows ready to use



Time-Saving Features

Tools to Build an Expandable HMI

Complete tools for the job...

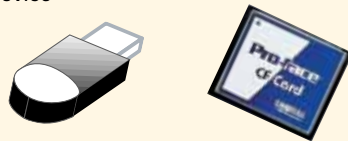
Easy Bar-code and 2-D Matrix Setup

- As simple as enabling the COM port the reader is connected to
- Data is instantly displayed on the screen or can be logged
- Use for parts tracking or identifying machine operator



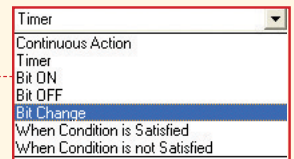
CF/USB Memory Support

- OEM machine field upgrades – no software needed
- Log critical data for later retrieval and analysis
- Store images and movies



Powerful D-scripting

- Extend your serial communications capabilities!
- Write your own simple ASCII protocol to communicate to custom controllers and third-party I/O boards and interface to legacy plant-floor equipment
- Create data logging algorithms – log to internal memory, CompactFlash®, or print directly from AGP's touch screen, etc.
- Develop custom functions (macros) to execute a sequence of events



Select from various types of triggers for maximum flexibility of operations.

Trending

- Logging to internal memory, CF card or USB memory
- Historical or real-time
- Up to 16 pens per trend
- One-touch trend to see value
- Pause
- Zoom
- Scroll



Alarms

- Quick visual of current, event-triggered and historical alarms
- Alarm summary
- Acknowledge alarms
- Trigger help images or movies



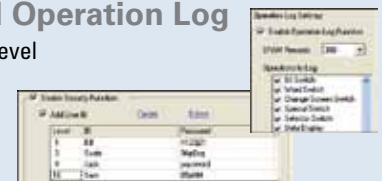
Recipes

- ✓ Create hundreds of recipes and load them from internal memory or CompactFlash® (CF) card
 - View all recipes on one screen, or use multiple screens
 - Transfer recipe values to and from PLC
- Create recipes via CSV files and transfer to AGP3000, or write recipes in Excel® or other documents



Security and Operation Log

- Log user ID and level to track changes



Pop-up Keypads

- Prebuilt, or design your own pop-up keypads
- Use with touch-screen or USB keyboard
- Numeric or alpha-numeric



Extensive Image Parts and Symbol Library

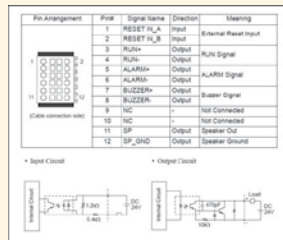
- More than 1,800 high-quality 3-D parts provide international recognition, overcoming language barriers
- Users can use the predefined parts or create their own
- Drag and drop directly from the library to the screen, reducing the number of mouse clicks required to create a screen
- Import JPG and BMP image files to create highly detailed HMI machine applications



Image Import

- Show machine graphics
- Help diagrams
- Exact location of maintenance zones

.JPG,
.BMP,
and .PNG



Choice of technology: Pick the right HMI for the application

Dedicated operator interfaces for the factory floor:

- ✓ AGP3000
- ✓ LT3000
- ✓ AST3000

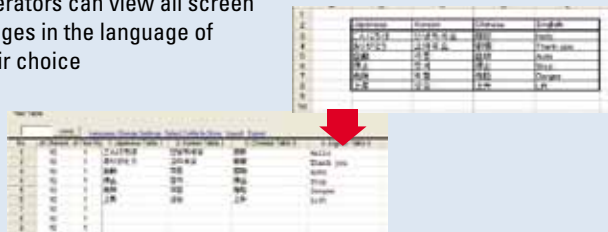
Windows-based for on-demand HMI:

- ✓ PS3000 Series with WinGP
- ✓ Works with third-party SCADA/ vision/motion and SPC



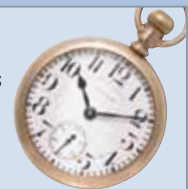
Multilanguage

- Supports up to 16 different languages simultaneously
- English, French, German, Russian, Spanish, Japanese, Chinese languages, and more
- Operators can view all screen images in the language of their choice



Time Scheduling

- Standardize equipment start-up times
- Monitor productivity from each production shift
- Set up periodic routine maintenance schedules
- Use time scheduler to limit access to machine operations



Cameras

- Stream video via NTSC/PAL video or over ethernet ¹
- Collect pass/fail and other data via ethernet



¹ Check driver list for supported cameras

Putting It Together

- ✓ AGP3000 or AST3000 S Class, or PS3000 with WinGP installed
- ✓ GP-Pro EX software
- ✓ PLC cable: see Accessories

The Value of a Multimedia HMI

Multimedia adds video and audio recording and playback

Efficient information at your fingertips!

- ✓ **Reduce downtime**
 - By recording video, find the cause, not the symptoms, quickly
 - Any alarm can trigger a movie playback to show operators how to resolve problems in the shortest time possible
- ✓ **Educate the workforce**
 - Reduce damaging mistakes, put training at their fingertips
- ✓ **Training where/when operators need it**
 - Make training available any time
 - New operators can rewind and playback training examples as often as needed
- ✓ **Faster maintenance**
 - Show maintenance staff the exact repair location and proper procedures
- ✓ **Improve communication**
 - Allow operators to leave messages for other shifts
 - Keep an online journal of machine activities
- ✓ **Improved safety**
 - Keep operators away from potential hazards
 - Put a camera where a person shouldn't be, remote monitoring

Make your workforce more efficient and cut down on costly 24/7 on-site technical support and training.



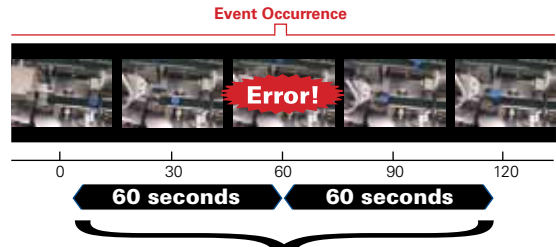
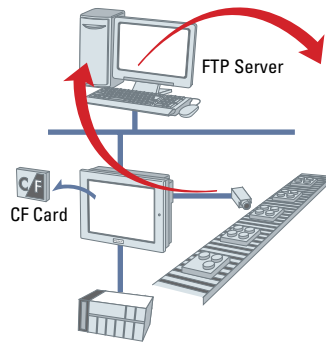
- ✓ **Capture the moment**
Record the events that lead to machine breakdown
- ✓ **Keep operators trained**
Provide the latest procedures at their fingertips
- ✓ **Convey information fast**
A picture is worth a thousand words; a video is worth a thousand pictures

Provide clear instructions to operators and maintenance personnel

Find root causes fast – see what happened before it happened

Reduce Downtime

- Like an airplane “black box,” record the events that led up to a fault, before the fault occurred
- The Event Recorder feature reduces the time required to find the root cause, and not the symptoms



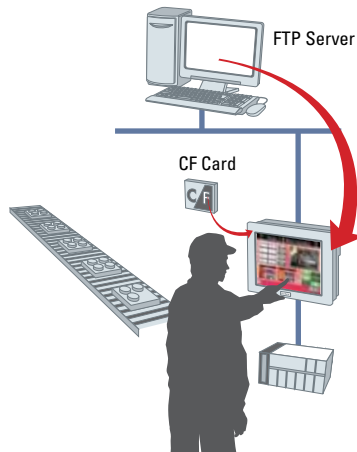
Occurrence of a predefined event triggers GP-Pro EX to record and store videos of events before and after the occurrence (max. 120 sec.)

Fast & accurate troubleshooting

Safe and informed employees work better

Educate the Workforce

- Provide training any time, with no need for a special time or classroom.
- Refresher instructions are an easy way to keep production running smoothly
- Provide critical safety information in a clear way, right at their fingertips



It's easy to add movies to on-site instruction screens for better comprehension.



And now, you can create movie files with commercially available video software.

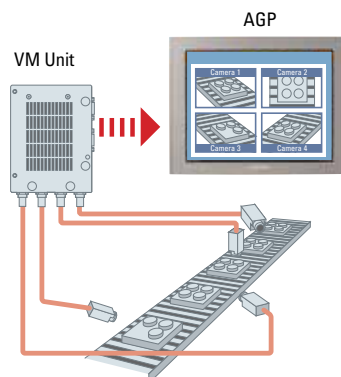
Note: Movie files you create must be converted with the Movie Converter EX converter tool, which requires the purchase of a license.

Whoever said, “You can’t be in two places at once” didn’t have a Pro-face AGP3000

Keep Operators Efficient

- With four camera inputs, the video mix unit keeps operators in a central location and visually shows how the rest of the machine is running
- Reduce walking time around long or large machines
- See into otherwise uninhabitable locations

Note: Not all models can connect the VM unit. Supported by AGP 10.4" and 12.1" TFT-type M, C and S classes.



Putting It Together

- AGP3000 M Class
- GP-Pro EX software
- PLC cable
- Movie Converter software (optional)
- Camera & microphone
- User-created training/help videos

Grow Your HMI Functionality: The Operator Interface Plus Control

Ladder logic and I/O directly from the HMI reduces the number of components to purchase, install and learn

Reduce system costs

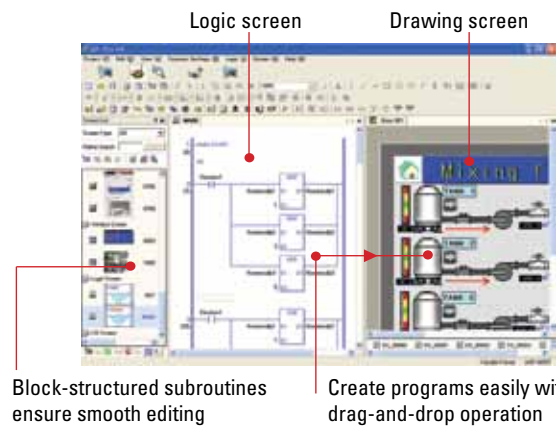
- ✓ **Eliminate the PLC**
 - Combine HMI and PLC functionality into one platform
 - Several I/O types to choose from
- ✓ **One software for HMI and logic**
 - IEC61131-3-compliant ladder logic
 - More than 100 ladder instructions supported, including PID, trigonometric and program control functions
- ✓ **Reduce part count**
 - Reduce the time to install
 - Hardware
 - Software
 - Wiring
- ✓ **Easier development and troubleshooting**
 - One database for all variables
 - No need for exporting and importing between packages

Save time and \$\$\$.

Simplify your system without losing speed and functionality.

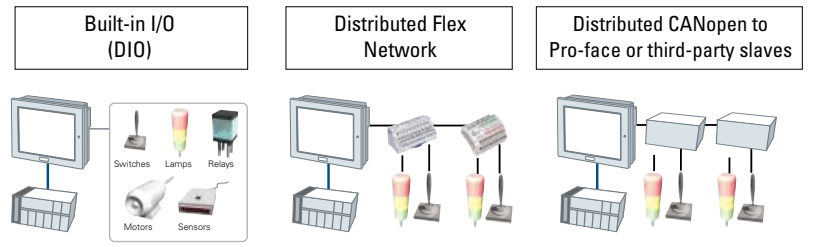
Develop logic and HMI screens side-by-side

- ✓ Drag and drop between logic and screens
- ✓ Save costly "fat-finger" mistakes
- ✓ See everything you need without switching programs
- ✓ One database to save you time



NEW! Added instructions for greater ease of use

3 I/O options to choose from:

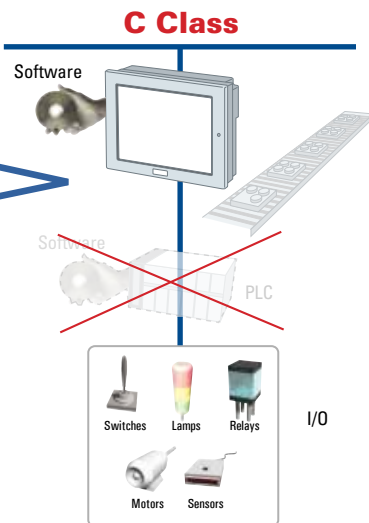


Reduce costs by reducing component count

EXAMPLE SAVINGS:

PLC	\$	600
PLC Software	\$	600
Annual Contract	\$	1,500
Labor	\$	500
Training	\$	2,000

TOTAL \$ 5,200



Putting It Together

- ✓ AGP3000 C Class
- ✓ GP-Pro EX software
- ✓ PLC cable
- ✓ Flex Network modules or HTB (CANopen slave) modules
- ✓ Flex Network or CANopen cables

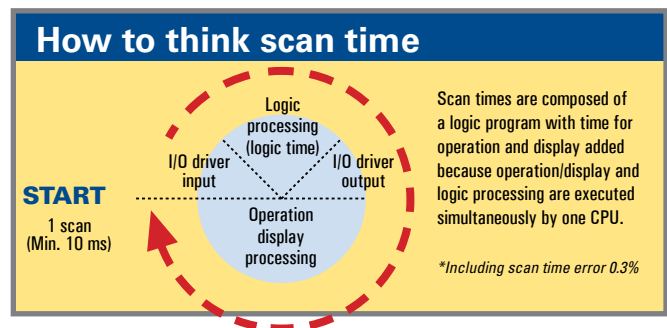
Powerful Ladder Logic Instructions

Category	Instruction Name	Instruction Notation	Ladder Symbol	
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		
	Down Counter	CTD		
	Up/ Down Counter	CTUD		
R/W Instruction	Time Read/Write	Time Read	JRD <P>	
		Time Set	JSET <P>	
	Date Read/Write	Date Read	JRD <P>	
		Date Set	JSET <P>	
Operation Instruction	Arithmetic Operation	Add	ADD <P>	
		Subtract	SUB <P>	
		Multiplication	MUL <P>	

Category	Instruction Name	Instruction Notation	Ladder Symbol	
Operation Instruction	Arithmetic Operation	Division	DIV <P>	
		Modulation	MOD <P>	
		Increment	INC <P>	
		Decrement	DEC <P>	
		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>	
		Move (Copy)	MOV <P>	
	Transfer	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>	
	Trigonometric Function	Bit Count	BCNT <P>	
		PID	PID	
		Sine	SIN <P>	

Category	Instruction Name	Instruction Notation	Ladder Symbol	
Function Instruction	Trigonometric Function	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>	
		Equal	EQ	
		Greater Than	GT	
		Greater Than Or Equal To	GE	
Compare Instruction	Arithmetic Compare	Less Than	LT	
		Less Than Or Equal To	LE	
		Not Equal	NE	
		Time Compare Equal	JEQ	
		Time Compare Greater Than	JGT	
		Time Compare Less Than	JLT	
	Time Compare	Time Compare Greater Than Or Equal To	JGE	
		Time Compare Less Than Or Equal To	JLE	
		Time Compare Not Equal	JNE	
		Convert Integer to Float	I2F <P>	
		Convert Integer to Real	I2R <P>	
		Convert Float to Integer	F2I <P>	
Convert Instruction	Data Convert	BCD Convert	BCD <P>	
		BIN Convert	BIN <P>	
		Encode	ENCO <P>	
	Type Convert	Decode	DECO <P>	
		Convert to Radian	RAD <P>	
		Degree Convert	DEG <P>	
Convert Instruction	Data Convert	Scale	SCL <P>	
		Convert Integer to Float	I2F <P>	
		Convert Integer to Real	I2R <P>	
	Type Convert	Convert Float to Integer	F2I <P>	
		Convert Float to Real	F2R <P>	
		Convert Real to Integer	R2I <P>	
Type Convert	Convert Real to Float	R2F <P>		
	Convert Seconds	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.).



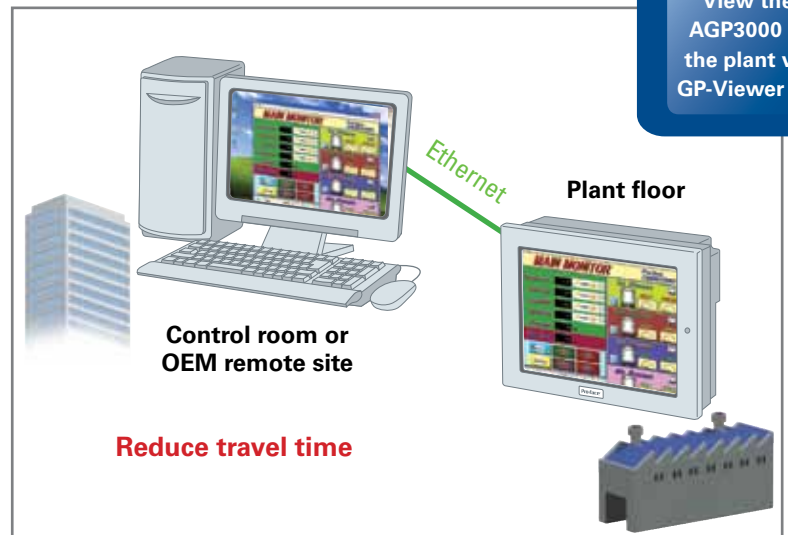
Tools for Remote Connectivity and Access

Internet HMI solutions: Your global connection!

Off-site OEM or on-site control room remote access tools, saves you time. Don't travel to the plant or walk to the production floor when you can access the information you need from your office.

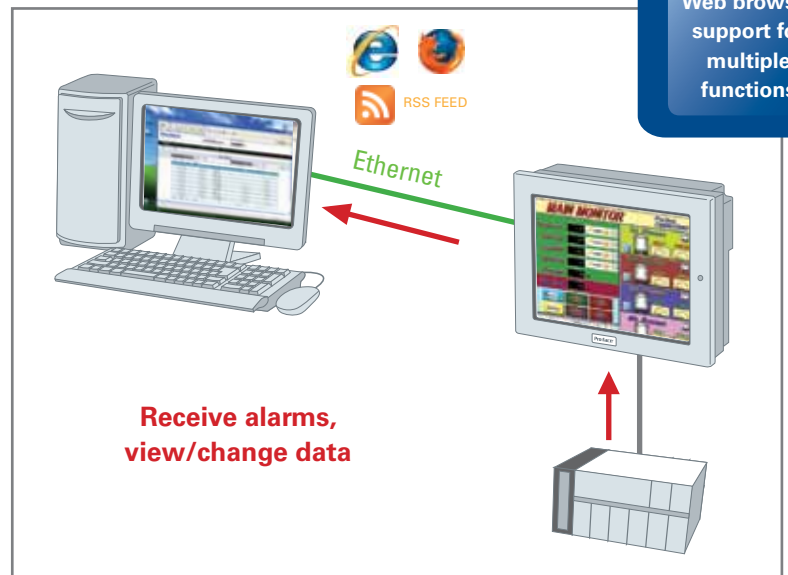
GP-Viewer EX

- ✓ Remotely access and control AGP unit screens
 - View HMI screens remotely: synchronously (same screen as operator) or asynchronously (independent screens from local operator)
 - Great for OEM remote troubleshooting and travel reduction
 - Great for control room supervisor access, viewing alarms or graphs
 - Easy screen-capture capability for project documentation. Access audio and image files on CF/USB storage



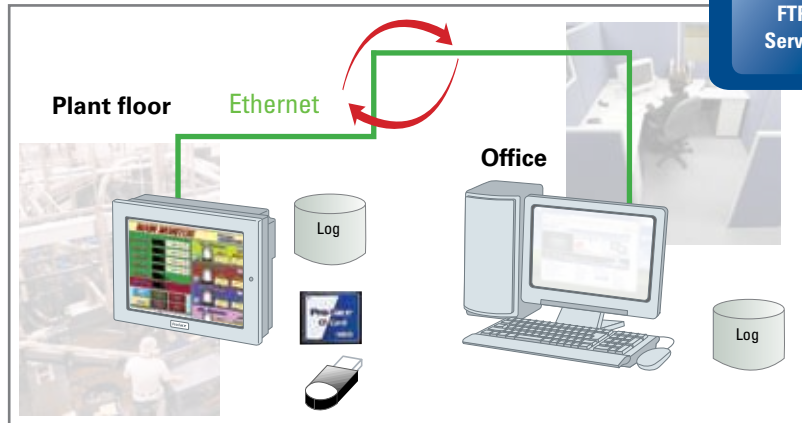
Web Server

- ✓ View AGP information and alerts through a Web browser
 - View AGP alarms on any PC via Web browser or RSS reader
 - Remote troubleshooting, Web viewing of alarms; subscribe to alarm RSS feeds
 - View PLC and internal addresses for troubleshooting
 - View the screens in GP-Viewer EX while monitoring values on the AGP in a Web browser



FTP Server

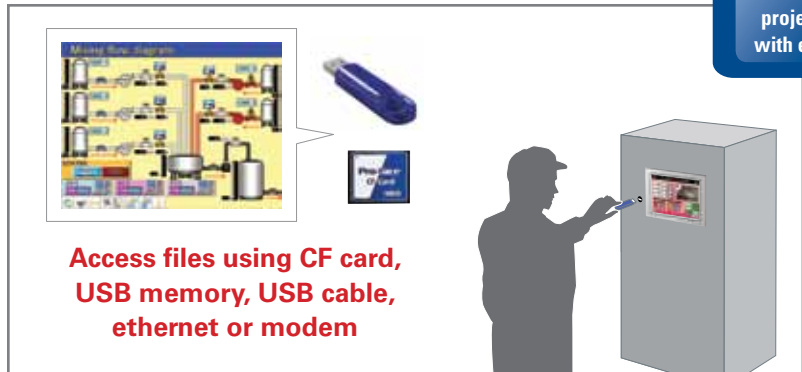
- ✓ Use a standard FTP client to update/retrieve data
 - Remotely read/write alarm, image, sampling data, recipe and video files on the CF card or USB memory
 - Remotely collect alarm or log information
 - Reduce travel to customer site



FTP Server

Transfer Tool

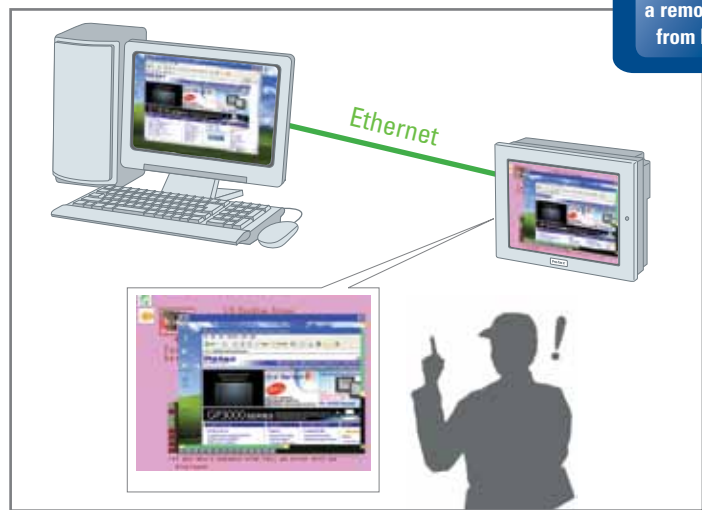
- ✓ Included and freely distributable project download utility
 - Great tool for maintenance personnel to transfer project to or from the HMI
 - Upload/download files from CF/USB storage
 - Allows OEM to transfer projects to end users without providing development software
 - Display model, driver & project information for troubleshooting



Transfer projects with ease

Remote PC Access (RPA)

- ✓ Harness the power of a PC from your dedicated HMI
 - View PDF, CAD, DOC, XLS 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 for machine updates
 - Remotely monitor SCADA programs while reducing SCADA licensing costs



Control a remote PC from HMI

Stop traveling to remote sites – update and troubleshoot from your office!



Enterprise-wide Data Management Solutions

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

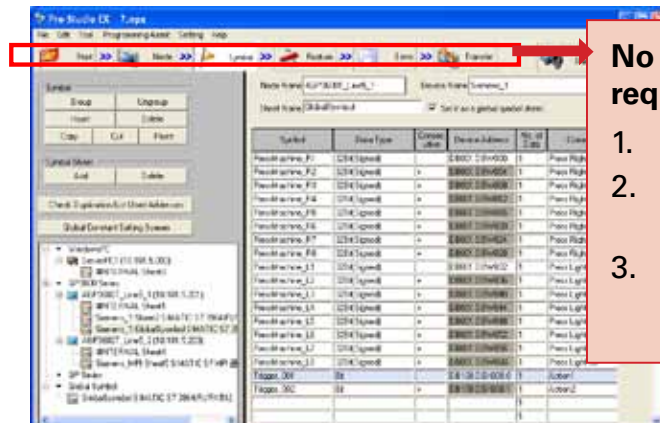
- OPC DA server
- DDE
- DLL
- API (VB, VB.NET, VC, C#.NET)
- Access™/Excel®
- ODBC, SQL, Oracle
- E-mail via SMTP
- MES actions

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

Fast and simple



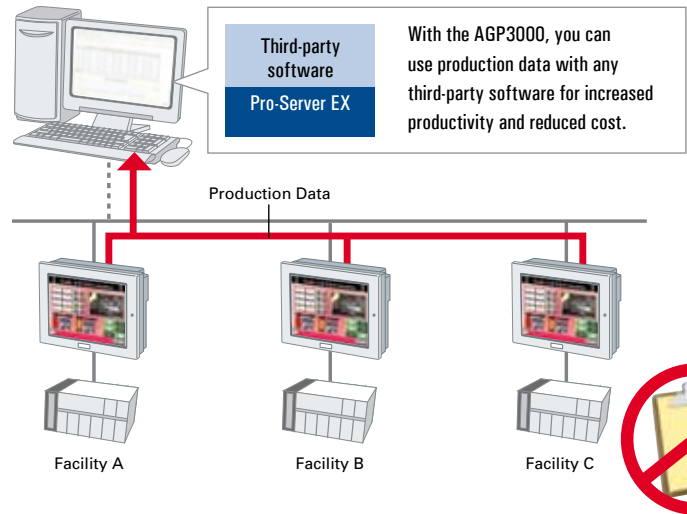
No programming required

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

- ✓ 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®

Data collection/management

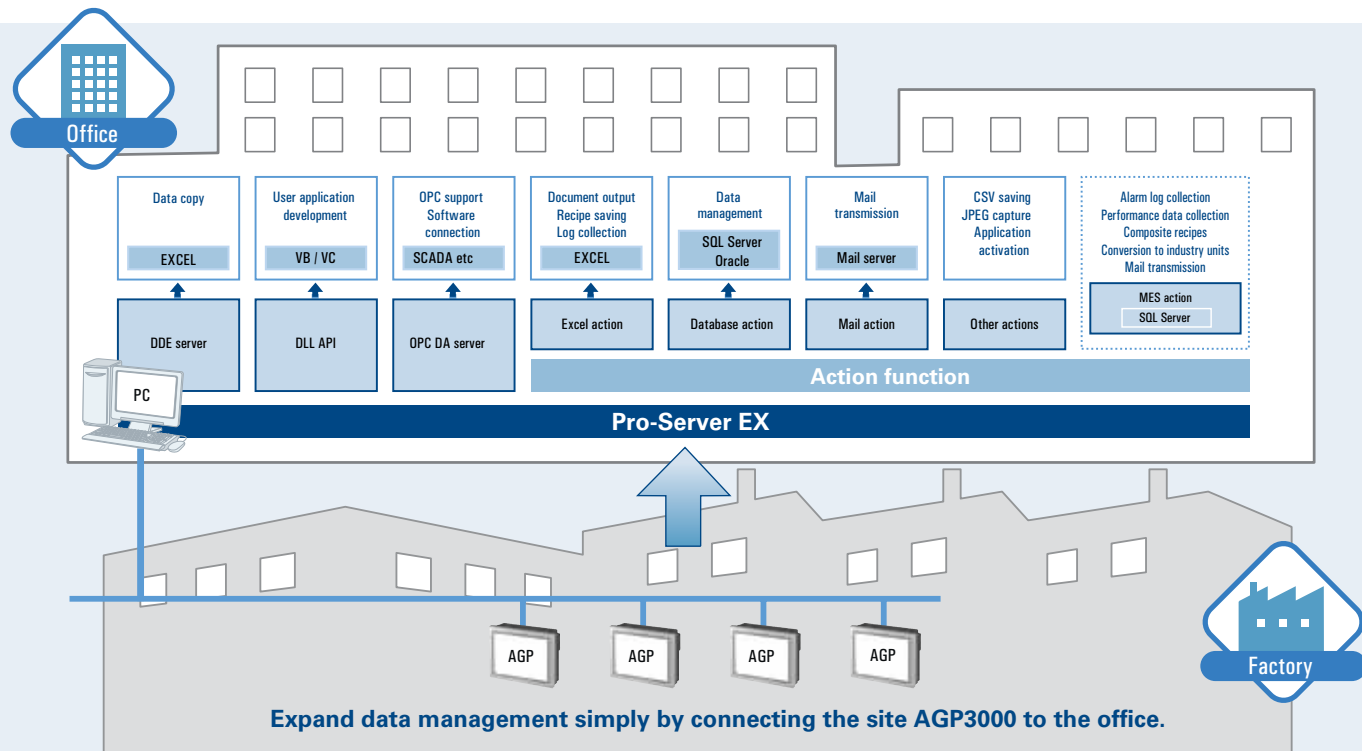
- Collect data on a remote server
- In plant or across the Internet
- Send data to another department or around the world in real-time
- Update recipes/production parameters remotely
- No more clipboard collection of data



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



Data Where You Need It

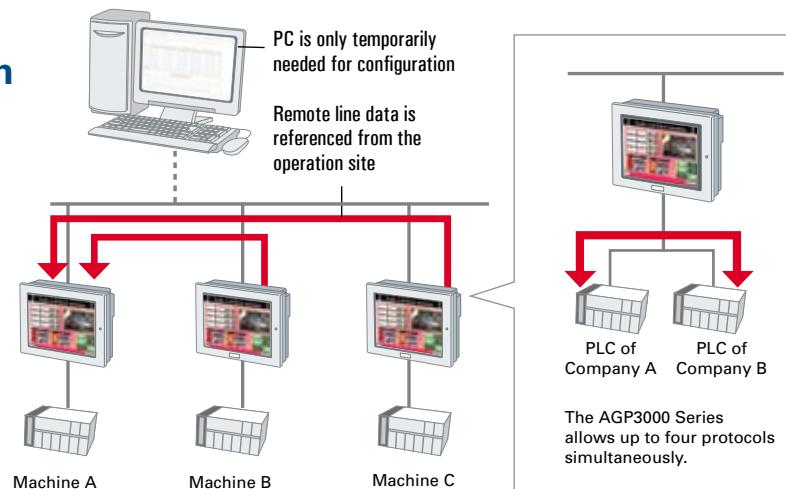
Reporting

- Includes 29 easy-to-use Excel® report templates
 - ✓ Daily/monthly/yearly reports
 - ✓ Shift downtime
 - ✓ Failure data rates
 - ✓ Preparation time graphs
- Use prebuilt templates or customize



Data sharing – Interdevice communication

- 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,
let Pro-face data management solutions work for you!

Data management software
Pro-Server EX

Pro-Server EX Remote PC Monitoring

Instant Alert Notification:

Keep your machine/process running

Reduce Downtime:

Use Pro-face industrial PCs with remote health monitor

- Instant notification of Pro-face industrial PCs' health status
- Open-platform HMIs alerting you before problems occur
 - ✓ CPU and core voltages
 - ✓ Fan RPM
 - ✓ Temperatures
 - ✓ Backlight
 - ✓ SMART hard-disk monitoring
- Power off the PC remotely in a controlled manner
- The PC knows what's happening before you do – let it tell you!



Control Room

Data management software
Pro-Server EX

Plant Floor



Pro-face open-platform HMI

If you want to learn more about Pro-face industrial PCs with health monitor, please visit www.profaceamerica.com

Right-Size Operator Interface Solutions



Multimedia M Class:

Operator interface with video/audio recording/playback to reduce downtime and increase safety



Control C Class:

Operator interface and PLC controller all-in-one solution. Simplify your machine design while reducing overall system cost.



	15-inch XGA		12-inch SVGA			10.4-inch VGA					7.5-inch												
	SIO 2ch	Ethernet	Expansion Unit	USB (Host)	CF Card	AUX SoundOut	SIO 2ch	Ethernet	Expansion Unit	VM Unit	USB (Host)	SIO 2 Ch	Ethernet	Expansion Unit	USB (Host)	CF Card	AUX SoundOut	SIO 2 Ch	Ethernet	CF Card	AUX SoundOut		
AGP3000 M Class	TFT 65,536 colors AC AGP3750-T1-AF	TFT 65,536 colors DC AGP3750-T1-D24	TFT 65,536 colors AC AGP3650-T1-AF				TFT 65,536 colors AC AGP3550-T1-AF AGP3560-T1-AF											TFT 65,536 colors DC AGP3450-T1-D24					
AGP3000 C Class			TFT 65,536 colors AC AGP3600-T1-AF-D81K AGP3600-T1-AF-D81C	TFT 65,536 colors DC AGP3600-T1-D24-D81K AGP3600-T1-D24-D81C	TFT 65,536 colors AC DC AGP3500-T1-AF-D81K AGP3500-T1-AF-D81C AGP3500-T1-D24-D81K AGP3500-T1-D24-D81C	TFT 65,536 colors AC DC AGP3500-S1-AF-D81K AGP3500-S1-AF-D81C AGP3500-S1-D24-D81K AGP3500-S1-D24-D81C	Mono 16 shades DC AGP3500-L1-D24-D81C	TFT 65,536 colors DC AGP3400-T1-D24-D81K AGP3400-T1-D24-D81C										TFT 65,536 colors DC AGP3400-T1-D24-FN1M AGP3400-T1-D24-CA1M					
AGP3000 S Class			TFT 65,536 colors AC AGP3600-T1-AF	TFT 65,536 colors DC AGP3600-T1-D24	TFT 65,536 colors AC DC AGP3500-T1-AF AGP3500-T1-D24 AGP3510-T1-AF	TFT 65,536 colors AC DC AGP3500-S1-AF AGP3500-S1-D24	Mono 16 shades DC AGP3500-L1-D24	TFT 65,536 colors DC AGP3400-T1-D24															
AST																							
LT																							

Hardware

SIO 2ch Serial Interface

COM1: RS-232C/RS-422/RS-485 serial interface. D-SUB 9-pin male connector. Communication method can be switched via software.

COM2: RS-422/RS-422/RS485 serial interface. D-SUB 9-pin female connector.

USB (Host) USB Interface (Host)

USB interface. Can be connected to USB printers, USB bar-code readers, keyboards, memory and a mouse.

CF Card CF Card Interface

Use CF cards to support data logging, recipe data and "travel-free" field updates.

Ethernet Ethernet Interface (LAN)

Ethernet communications (10-BASE-T/100 BASE-TX) interface. IEEE 802.3u-compliant. Accepts RJ-45 modular jack connector (8-pin).

Expansion Unit Expansion Unit Interface

For fieldbus networking modules, e.g. DeviceNet™, PROFIBUS communication.

VM Unit Video Mix Unit Interface

The VM unit can be connected through this interface. Four cameras can be connected to one unit.

AUX SoundOut AUX/Sound Output Interface

This interface accommodates external reset, alarm output, buzzer output and sound output.



Standard S Class:
Operator interface with extensive communications and networking capability



AST and LT Classes:
AST: Entry-level operator interfaces with serial ports and many powerful features
LT: OEM HMI touch controllers ideal for standalone machines



4.3-inch		5.7-inch				3.8-inch									
VGA		QVGA				QVGA									
Expansion Unit	USB (Host)	SIO 2 Ch	Ethernet	Expansion Unit	USB (Host)	CF Card	SIO 1 Ch	Ethernet	USB (Host)	SIO 2 Ch	* USB (Host)				
		*CF not supported; single SIO port only				*Not supported by AGP3302B, AST3301 or LT3301			*Serial ports not supported by LT3201						
 AGP3400-S1-D24-D81K AGP3400-S1-D24-D81C		 AGP3300-T1-D24-D81K AGP3300-T1-D24-D81C		 AGP3300-S1-D24-D81K AGP3300-S1-D24-D81C		 AGP3300-L1-D24-D81K AGP3300-L1-D24-D81C									
		 AGP3300-T1-D24-FN1M AGP3300-T1-D24-CA1M		 AGP3300-L1-D24-FN1M AGP3300-L1-D24-CA1M											
 AGP3400-S1-D24		 AGP3300-T1-D24		 AGP3300-S1-D24		 AGP3300-L1-D24		 AGP3301-S1-D24 AGP3301-L1-D24		 AGP3302-B1-D24		 AGP3200-T1-D24		 AGP3200-A1-D24	
						 AST3301-S1-D24		 AST3301-B1-D24		 AST3201-A1-D24 AST3211-A1-D24					
		 LT3300-S1-D24-C ¹ LT3300-S1-D24-K ¹		 LT3300-L1-D24-C ¹ LT3300-L1-D24-K ¹		 LT3301-L1-D24-C LT3301-L1-D24-K					 LT3201-A1-D24-C [*] LT3201-A1-D24-K [*]				

Video Input Interface

Stream or record live video to solve problems quickly. See "inside" the machine or process.

DIO Interface

Reduce system cost by connecting directly to switches, lamps and stack lights.

Sound Input Interface

Record audio to leave messages/instructions for other operators.

FLEX NETWORK/CANopen Interface

Distributed I/O architectures reduce wiring and installation costs by putting I/O where you need it.

Model Number Nomenclature

AGP3 [] - [] - **1** - [] - []

Display size: 7: 15-inch, 6: 12.1-inch, 5: 10.4-inch, 4: 7.5-inch, 3: 5.7-inch, 2: 3.8-inch

Class (function): 50/60: M (Multimedia) Class, 00/10: C (Control) Class, S (Standard) Class, 01: S (Standard) Class

Rev. []

Display type: T: TFT color LCD, S: STN color LCD, L: Monochrome LCD, B: Blue-mode monochrome LCD, A: Amber monochrome LCD

I/O type (C Class only): D81K: DIO (synch) type, D81C: DIO (source) type, FN1M: Flex Network type, CA1M: CANopen type

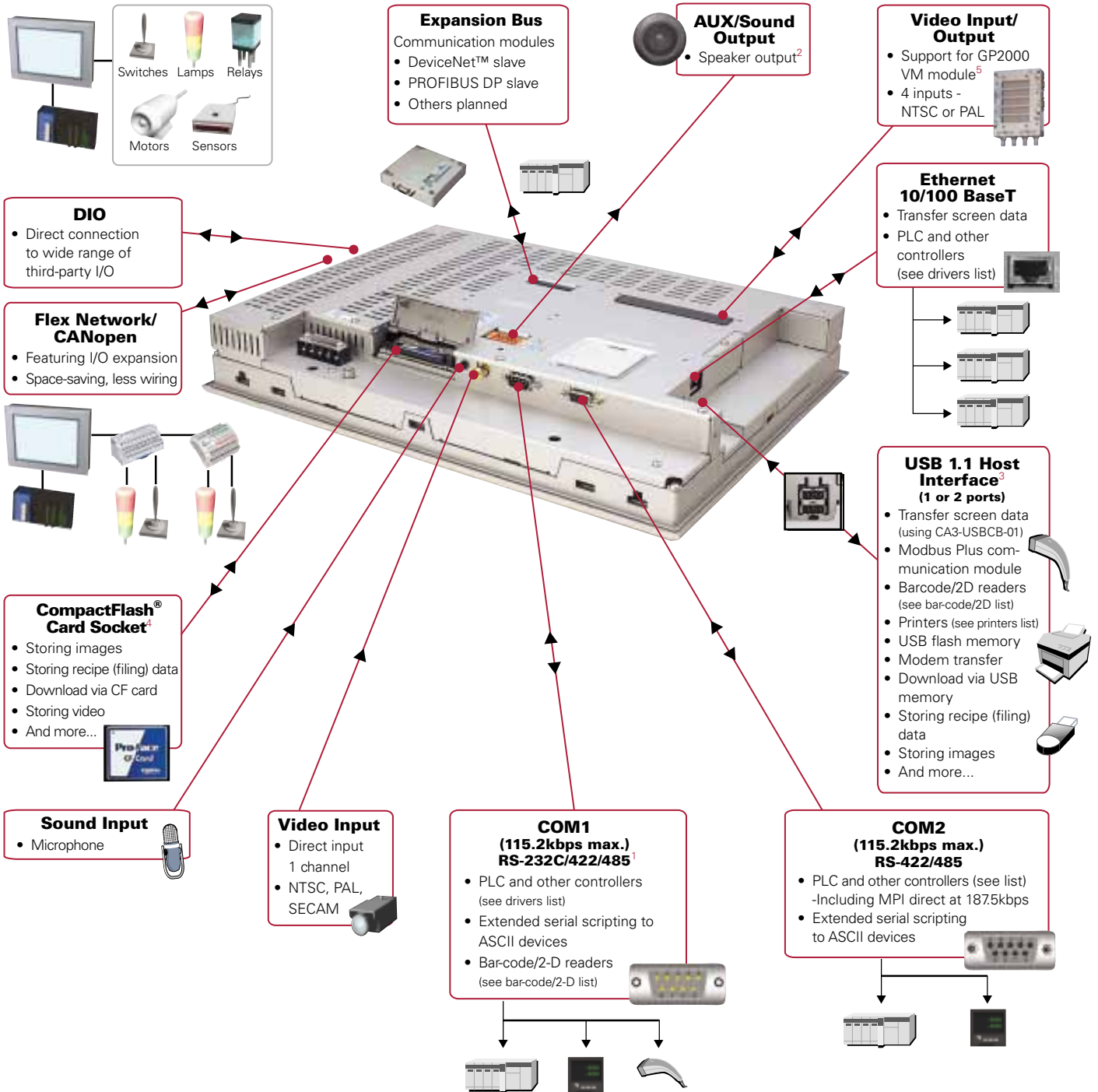
Power supply: AF: AC 100-240V, D24: DC24V

Note: Additional suffixes indicate various added functions.

Interface to Anything on the Factory Floor

The only HMI you need

The AGP3000's extensive array of connectivity options makes it easy to standardize on one HMI family



Hardware

¹ AGP3302-B type model only has RS-232C asynchronous transmission

² AGP34xx, 35xx, 36xx and 37xx models include AUX/sound outputs

³ Sounds must be converted from .WAV format

⁴ Requires CA3-USBCB-01 for transfer of screen data

⁵ Not available on 3302B or 32xx

⁶ Compatible with AGP35xxT and 36xxT TFT display models only

• These interfaces represent the entire line of AGP3000 products. See data sheets for individual model specifications.
 • USB - See driver list for supported third-party devices
 • Up to four PLC protocols simultaneously (AGP33xx supports two).
 • Please refer to documentation for allowable configurations.

Operator Interface Plus Multimedia



AGP 3750T

Certifications



Display

- TFT color LCD (65K colors)
- 1024 x 768 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W395 [15.55in] x H294mm [11.57in] x D60mm [2.36in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485
Speaker	Video: NTSC/PAL/SECAM
Microphone	

Model Numbers

AGP3750-T1-AF
AGP3750-T1-D24

AGP 3650T

Certifications



Display

- TFT color LCD (65K colors)
- 800 x 600 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W313mm [12.31in] x H239mm [9.41in] x D56mm [2.2in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485
Speaker	Video: NTSC/PAL/SECAM
Microphone	

Model Numbers

AGP3650-T1-AF

AGP 3550T

Certifications



Display

- TFT color LCD (65K colors)
- 640 x 480 pixels (AGP3550)
- 800 x 600 pixels (AGP3560)
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W270.5mm [10.65in] x H212.5mm [8.37in] x D57mm [2.24in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485
Speaker	Video: NTSC/PAL/SECAM
Microphone	

Model Numbers

AGP3550-T1-AF
AGP3560-T1-AF

AGP 3450T

Certifications



Display

- TFT color LCD (65K colors)
- 640 x 480 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W215mm [8.46in] x H170mm [6.69in] x D60mm [2.36in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485
Speaker	Video: NTSC/PAL/SECAM
Microphone	

Model Numbers

AGP3450-T1-D24



Standard Operator Interface

12.1"



10.4"



7.5"



5.7"



AGP 3600

Certifications



Display

- TFT color LCD (65K colors)
- 800 x 600 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W313mm [12.32in] x H239mm [9.41in] x D56mm [2.2in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

Model Numbers

AGP3600-T1-AF
AGP3600-T1-D24

AGP 3500

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- Monochrome B/W (16 shades)
- 640 x 480 pixels
- 800 x 600 pixel (AGP3510 only)
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: TFT models: W313mm [12.32in] x H212.5mm [8.37in] x D57mm [2.24in] STN & Mono models: W313mm [12.32in] x H239mm [9.41in] x D56mm [2.2in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

Model Numbers

AGP3500-T1-AF
AGP3500-T1-D24
AGP3500-S1-AF
AGP3500-S1-D24
AGP3500-L1-D24
AGP3510-T1-AF

AGP 3400

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- 640 x 480 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W215mm [8.46in] x H170mm [6.69in] x D60mm [2.36in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

Model Numbers

AGP3400-T1-D24
AGP3400-S1-D24

AGP 3300

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- Monochrome B/W (16 shades)
- Blue LCD (16 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W167.5mm [6.59in] x H135mm [5.31in] x D59.5mm [2.34in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

Note: Ethernet supported only by AGP3300, not 3301 or 3302. AGP3302 Com1 RS-232 only.

Model Numbers

AGP3300-T1-D24
AGP3300-S1-D24
AGP3300-L1-D24
AGP3301-S1-D24
AGP3301-L1-D24
AGP3302-B1-D24

5.7"



3.8"



3.8"



AST 3301

Certifications



Display

- STN color LCD (256 colors)
Blue LCD (8 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W167.5mm [6.59in] x H135mm
[5.31in] x D59.5mm [2.34in]

Ports & Interfaces

(1) USB	Expansion Bus
Com1: RS-232	Com2: RS-422/485

Model Numbers

AST3301-B1-D24
AST3301-S1-D24

AGP 3200

Certifications



Display

- TFT color LCD (256 colors)
Monochrome amber LCD
(8 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W130mm [5.12in] x H104mm
[4.09in] x D40mm [1.57in]

Ports & Interfaces

Ethernet	Com1: RS-232
(1) USB	

Model Numbers

AGP3200-T1-D24
AGP3200-A1-D24

AST 3201

Certifications



Display

- Monochrome amber LCD
(8 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W130mm [5.12in] x H104mm
[4.09in] x D40mm [1.57in]

Ports & Interfaces

(1) USB
Com1: RS-232
Com2 (AST3201): RS-422/485
Com2 (AST3211): Siemens MPI (RS-485)

Model Numbers

AST3201-A1-D24
AST3211-A1-D24

**Right-size,
right-technology
solutions**

**Consider your HMI
requirements for today
and tomorrow:**

• *What size displays do you need?*

• *What PLCs/protocols will you use?*

• *What ports (serial, ethernet,
USB, etc.) do you need?*

• *What other devices will you
need, ie bar-code, temperature
controllers or other third-party
devices?*

Operator Interface Plus Control: All-in-one-box solution

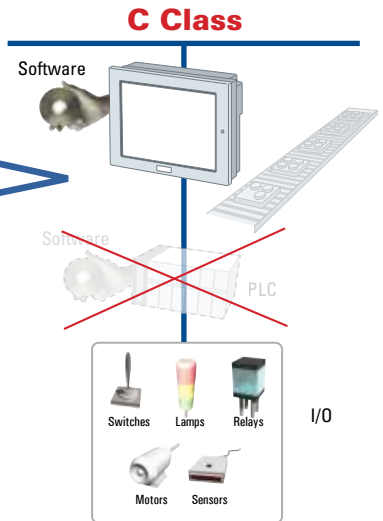
Reduce cost by reducing component count

- One development software for both ladder logic and screen graphics
- Built-in I/O interface
- Use industry-standard I/O

EXAMPLE SAVINGS:

PLC	\$	600
PLC Software	\$	600
Annual Contract	\$	1,500
Labor	\$	500
Training	\$	2,000

TOTAL \$ 5,200



Diagnostics at your fingertips

- Monitor built-in ladder logic without a laptop
- See logic flow and variable values
- No more guessing of the machine's status

Logic monitoring for AGP3000 C-Class units



Logic Display

Display ladder logic program on the operator interface so you can check status and troubleshoot without a laptop



Address Display

Display addresses used in logic program. See current values and real-time updates

Read/write PLC data directly

- Provides convenient access to PLC behind locked cabinet door
- Increase safety: Eliminate the need for personal protective equipment (PPE)
- Instant access to all I/O by creating only one graphic button



PLC Device Monitor

Display I/O from any PLC or controller without creating extra operator interface screens



Change PLC Values

Change PLC I/O, bit or word values without the need for a laptop

Not supported by EtherNet/IP™ native tag driver. Check the Pro-face Device PLC manual for details.

Operator Interface Plus Control



AGP 3600

Certifications



Display

- TFT color LCD (65K colors)
- 800 x 600 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W313mm [12.32in] x H239mm [9.41in] x D56mm [2.2in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

I/O Architectures

Choose one:	DIO ¹ : 6 in/2 out
	Flex Network ²
	CANopen to Pro-face or third-party slaves

Model Numbers

AGP3600-T1-AF-D81K
AGP3600-T1-AF-D81C
AGP3600-T1-AF-FN1M
AGP3600-T1-AF-CA1M
AGP3600-T1-D24-D81K
AGP3600-T1-D24-D81C
AGP3600-T1-D24-FN1M
AGP3600-T1-D24-CA1M

AGP 3500

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- Monochrome B/W LCD (16 shades)
- 640 x 480 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: TFT models: W270.5mm [10.65in] x H212.5mm [8.37in] x D57mm [2.24in] STN & Mono models: W313mm [12.32in] x H239mm [9.41in] x D56mm [2.2in]

Ports & Interfaces

Ethernet	Com1:
(2) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

I/O Architectures

Choose one:	DIO ¹ : 6 in/2 out
	Flex Network ²
	CANopen to Pro-face or third-party slaves

Model Numbers

AGP3500-T1-AF-D81K AGP3500-T1-D24-CA1M
AGP3500-T1-AF-D81C AGP3500-S1-AF-D81K
AGP3500-T1-AF-FN1M AGP3500-S1-AF-D1C
AGP3500-T1-AF-CA1M AGP3500-S1-D24-D81K
AGP3500-T1-D24-D81K AGP3500-S1-D24-D81C
AGP3500-T1-D24-D81C AGP3500-L1-D24-D81C
AGP3500-T1-D24-FN1M

AGP 3400

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- 640 x 480 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W215mm [8.46in] x H170mm [6.69in] x D60mm [2.36in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

I/O Architectures

Choose one:	DIO ¹ : 6 in/2 out
	Flex Network ²
	CANopen to Pro-face or third-party slaves

Model Numbers

AGP3400-T1-D24-D81K
AGP3400-T1-D24-D81C
AGP3400-T1-D24-FN1M
AGP3400-T1-D24-CA1M
AGP3400-S1-D24-D81K
AGP3400-S1-D24-D81C

AGP 3300

Certifications



Display

- TFT color LCD (65K colors)
- STN color LCD (4,096 colors)
- Monochrome B/W (16 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity: 10-90% noncondensing
- External Dimensions: W167.5mm [6.59in] x H135mm [5.31in] x D59.5mm [2.34in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485
CF Type II	Com2:
Expansion Bus	RS-422/485

I/O Architectures

Choose one:	DIO ¹ : 6 in/2 out ²
	Flex Network ²
	CANopen to Pro-face or third-party slaves

Model Numbers

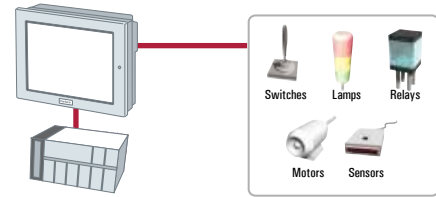
AGP3300-T1-D24-D81K AGP3300-L1-D24-D81K
AGP3300-T1-D24-D81C AGP3300-L1-D24-D81C
AGP3300-T1-D24-FN1M AGP3300-L1-D24-FN1M
AGP3300-T1-D24-CA1M AGP3300-L1-D24-CA1M
AGP3300-S1-D24-D81K
AGP3300-S1-D24-D81C

¹DIO: D81C=Source, D81K=Sink ²Flex Network compatible with FN distributed I/O modules

C-Class models with built-in discrete I/O

AGP3000 D81C or D81K models

- Reduces system cost by eliminating need for PLC in simple control applications
- I/O is built-in, with no extra modules needed for connection to local I/O
- Directly connect to buttons, limit switches, lamps, sensors or indicators
- Supports
 - 6 inputs/2 outputs (choose sink or source models)
 - I/O update rate = 10ms (minimum)
- Control a stack light or buzzer directly from the HMI

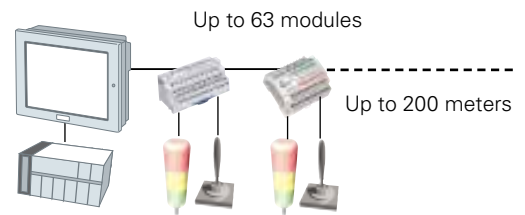


- ✓ Connect directly to I/O
- ✓ Eliminate or enhance the PLC
- ✓ Ladder logic included

C-Class models with Flex Network interface

AGP3000 FN1M models

- Pro-face dedicated I/O network for use in distributed I/O applications
- Uses low-cost, industry-standard, twisted-pair network wiring
- Supports:
 - 256 discrete inputs and 256 discrete outputs (512 bits)
 - 64 analog inputs and 64 analog outputs (128 words)
 - I/O update rate = 10ms (minimum)
 - Distance of up to 200 meters
- Reduces system cost by eliminating need for PLC in simple control applications




- ✓ Connect directly to I/O
- ✓ Eliminate or enhance the PLC
- ✓ Ladder logic included

Use any mix of Flex Network distributed I/O modules


Flex Network FN modules Discrete I/O

8-Relay




8-relay discrete output, 1 common
FN-Y08RL41

16-Point




16-point discrete input, 16-point sink transistor output
FN-XY16SK41

16-Point




16-point discrete input, 16-point source transistor output
FN-XY16SC41

32-Point



32-point discrete input
FN-X32TS41


32-Point



32-point discrete input, 32-point sink transistor output
FN-XY32SKS41


Analog I/O modules

2-Channel




2-channel analog input: 0-10VDC 0-20ma, 4-20ma
FN-AD02AH41

4-Channel




4-channel analog input: 0-10VDC, +/-10VDC, 0-20ma, 4-20ma
FN-AD04AH11

2-Channel



2-channel analog output: 0-10VDC 0-20ma, 4-20ma
FN-DA02AH41

4-Channel



4-channel analog output: 0-10VDC, +/-10VDC, 0-20ma, 4-20ma
FN-DA04AH11

NEW!

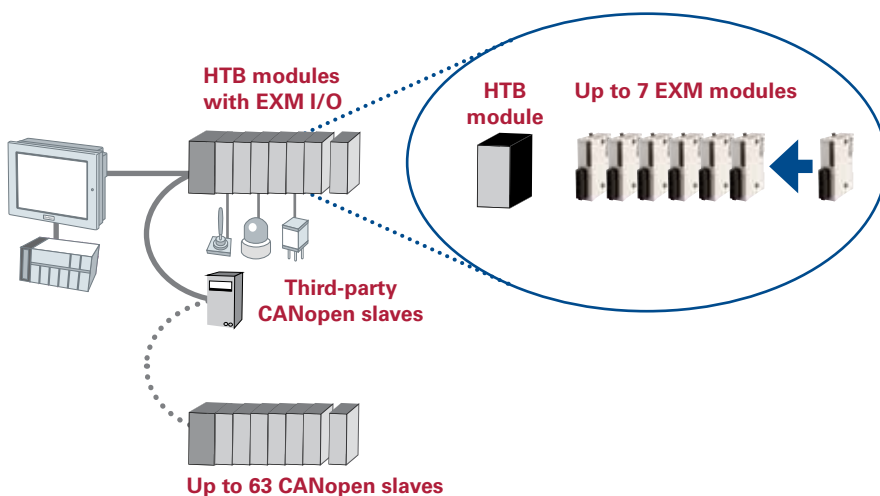
C-Class models with CANopen interface for distributed I/O

AGP3000 CA1M models

- CANopen-based network for use in distributed I/O applications
- Uses Pro-face CANopen slave (HTB module) or any third-party CANopen slaves
- Supports
 - 256 discrete inputs and 256 discrete outputs (512 bits)
 - 64 analog inputs and 64 analog outputs (128 words)
 - I/O update rate = 10ms (minimum)
 - Distance of up to 1000 meters
- Reduces system cost by eliminating need for PLC in simple control applications

Pro-face CANopen interface supports:

- Pro-face brand CANopen slaves (HTB)
- OR**
- Third-party CANopen slaves



Putting It Together

- ✓ AGP3000 CA1M C-Class unit
- ✓ GP-Pro EX HMI software
- ✓ HTB CANopen slave module
 - EXM I/O modules (optional)
- ✓ Third-party CANopen slaves

EXM analog and discrete I/O modules

Compatible with LT3000 units and AGP3000 C-Class CANopen units

Discrete input modules

- 8-Point** 8-point input module
EXM-DDI8DT
- 16-Point** 16-point input module
EXM-DDI16DT

Discrete output modules

- 8-Point** 8-point relay output module
EXM-DRA8RT
- 16-Point** module
EXM-DRA16RT
- 8-Point** 8-point sink output module
EXM-DDO8UT
- 16-Point** 16-point sink output module
EXM-DDO16UK
- 8-Point** 8-point output source module
EXM-DDO8TT
- 16-Point** 16-point output source module
EXM-DDO16TK

Mixed discrete I/O modules

- 4-Point/4-Point** 4-point input / 4-point output module
EXM-DMM8DRT

Analog I/O modules

- 2-Channel** 2-channel analog input module
EXM-AMI2HT
- 2-Thermocouple or 2-Pt100/1-Channel** 2-channel temperature input / 1-channel analog output module
EXM-ALM3LT
- 2-Channel/1-Channel** 2-channel analog input / 1-channel analog output module
EXM-AMM3HT
- 1-Channel** 1-channel analog output module
EXM-AM01HT

LT3000 Series - Standalone Machine Controller

Reduce machine costs while increasing performance

- Reduce component count
- Eliminate PLC/custom controls
- Cut remote maintenance costs
- Eliminate multiple software packages and support

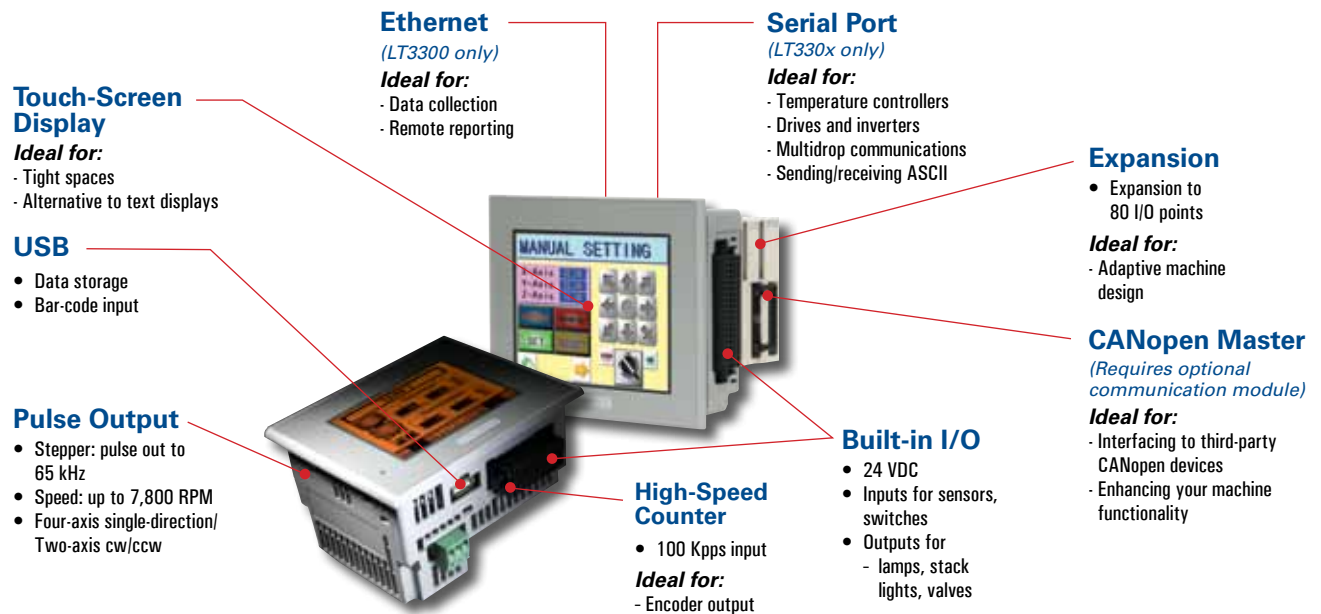
LT3000 Series - A space-saving control solution

Typical applications

- Motor speed control
- Wrapping machines
- Feeder machines
- Inspection systems
- Labeling machines



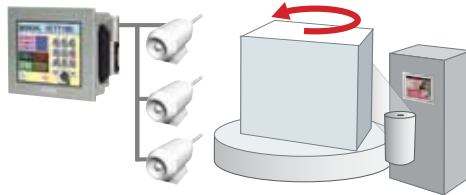
LT3000 Series Features



OEM Solution Examples

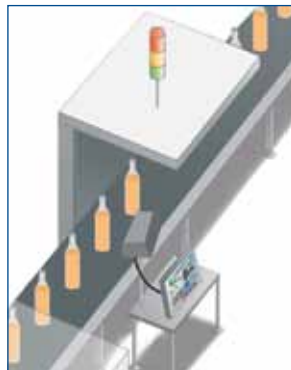
Stretch wrapping

- Three drives
- Help menus
- Replace the PLC



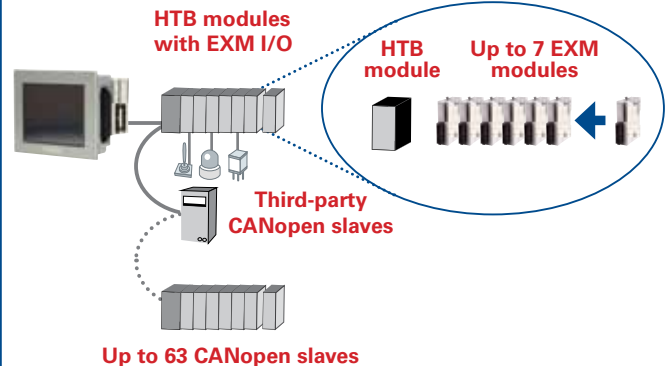
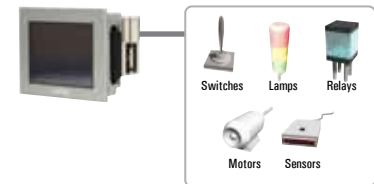
Inspection system

- Tie into pass/fail vision sensors
- Metal detector
- Drive alarms and stack light



LT3000 I/O Options

Use built-in
or
CANopen I/O



LT3000 OEM HMI Touch Controllers

5.7"



LT 3300

Certifications



Display

- STN color LCD (4,096 colors)
Monochrome B/W (16 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W167.4mm [6.59in] x H135.0mm
[5.31in] x D77.6mm [3.06in]

Ports & Interfaces

Ethernet	Com1:
(1) USB	RS-232/422/485

I/O Architectures

Built-in DIO: 16 in/16 out ¹
Expansion I/O up to 3 EXM modules
CANopen to Pro-face or third-party slaves (Requires optional communication module)

Model Numbers

LT3300-S1-D24K
LT3300-S1-D24C
LT3300-L1-D24K
LT3300-L1-D24C

5.7"



LT 3301

Certifications



Display

- Monochrome B/W LCD
(16 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W167.4mm [6.59in] x H135.0mm
[5.31in] x D77.6mm [3.06in]

Ports & Interfaces

(1) USB
Com1:
RS-232/422/485

I/O Architectures

Built-in DIO: 16 in/16 out ¹
Expansion I/O up to 3 EXM modules
CANopen to Pro-face or third-party slaves (Requires optional communication module)

Model Numbers

LT3301-L1-D24K
LT3301-L1-D24C

3.8"



LT 3201

Certifications



Display

- Monochrome amber LCD
(8 shades)
- 320 x 240 pixels
- Analog touch screen (no grid)

Environmental

- Operating temp. 0 ° to 50 °C
- Ratings: NEMA, 4x/13, IP65f
- Humidity:
10-90% noncondensing
- External Dimensions:
W130mm [5.12in] x H104mm
[4.09 in] x D76.5mm [3.01in]

Ports & Interfaces

(1) USB

I/O Architectures

Built-in DIO: 12 in/6 out ¹
Expansion I/O up to 2 EXM modules
CANopen to Pro-face or third-party slaves (Requires optional communication module)

Model Numbers

LT3201-A1-D24K
LT3201-A1-D24C

Choose from 13 EXM modules:

Discrete input modules

8-Point



8-point input module
EXM-DDI8DT

16-Point



16-point input module
EXM-DDI16DT

Discrete output modules

8-Point



8-point relay output
module
EXM-DRA8RT

16-Point



16-point relay output
module
EXM-DRA16RT

8-Point



8-point sink output
module
EXM-DDO8UT

16-Point



16-point sink output
module
EXM-DDO16UK

8-Point



8-point output source
module
EXM-DDO8TT

16-Point



16-point output source
module
EXM-DDO16TK

Mixed discrete I/O modules

4-Point/
4-Point



4-point input / 4-point
output module
EXM-DMM8DRT

Analog I/O modules

2-Channel



2-channel analog
input module
EXM-AMI2HT

2-Channel
Temp. or
1-Channel
Output



2-channel temperature
input / 1-channel
analog output module
EXM-ALM3LT

2-Channel/
1-Channel



2-channel analog
input / 1-channel
analog output module
EXM-AMM3HT



1-Channel








1-channel analog
output module
EXM-AMO1HT




¹DIO can be configured as standard input/outputs or used for PWM, PLC, HSC or pulse-catch.

Software and Accessories

 <p>GP-Pro EX HMI Development Software EX-ED-Vxx (Includes one user license)</p> <p>Additional GP-Pro EX Development License EX-ED-LICENSE</p>	<p>Remote PC Access (RPA) EX-RPA (1) runtime license</p> <p>10-Pack User Licenses: EX-RPA-10</p> <p>30-Pack User Licenses: EX-RPA-30</p>	<p>GP-Viewer EX Remote Monitoring Software EX-VIEWER LICENSE (Requirements: One license for each GP3000 Series with Ethernet port)</p> <p>10-Pack User Licenses: EX-VIEWER LICENSE-10</p> <p>30-Pack User Licenses: EX-VIEWER LICENSE-30</p>	 <p>Pro-Server EX Data Management Software EX-SDV-Vxx (Includes one user license)</p> <p>Additional User License EX-SED-LICENSE</p>	<p>Manufacturing Execution System (MES) Action License EX-MES-LICENSE-Vxx Allows one installation from Pro-Server EX</p>
<p>AGP3000 Movie Converter Software EX-MOVCON-LICENSE M-Class Units: Required to convert videos into AGP3000 Series format</p>				

				
<p>AUX Connector CA5-AUXCNALL-01 The AUX connector for AGP3000 series required in case an external output is used.</p>	<p>Terminal Block Conversion CA3-ADPTRM-01 9-pin male D-sub to screw terminal.</p>	<p>Siemens COM Port Conversion Adapter CA3-ADPSEI-01 9-pin D-sub to MPI adapter. Adapts COM port to accept Profibus MPI-style connectors and cables.</p>	<p>COM Port Conversion Adapter CA3-ADPCOM-01 9-pin D-sub plug to 9-pin D-sub socket adapter for AGP3000 COM port 1. Not intended for AGP3302 model.</p>	<p>Online Adapter CA4-ADPONL-01 9-pin D-sub plug to 9-pin D-sub socket adapter for AGP3000 COM port 2 only. NOTE: Includes network pull-up/pull-down resistors. Not intended for AGP3302 model.</p>

				
<p>DC Power Supply Connector for AGP330x and AGP34x0 models CA5-DCCNM-01</p>	<p>DC Power Supply Connector for AGP35x0 and AGP36x0 models CA5-DCCNL-01</p>	<p>Mitsubishi PLC A, QnA, FX Series 2-Port Adapter II GP070-MD11 Allows simultaneous use of an AGP3000 Series unit and a Mitsubishi PLC A, QnA, FX series peripheral device.</p>	<p>USB Cable Clamp (2-port) CA5-USBATL-01 USB cable clamp for 2-port HMI units to prevent disconnection.</p>	<p>USB Cable Clamp (1 port) CA5-USBATM-01 USB cable clamp for 1-port HMI units to prevent disconnection.</p>

				
<p>Installation Fastener CA3-ATFALL-01 Used to install the AGP3000 Series into a solid panel (included with unit).</p>	<p>PROFIBUS Slave Unit CA5-PFSALL/EX-01 PROFIBUS slave communication module for connecting AGP to PROFIBUS DP network.</p> <p>DeviceNet™ Slave Unit CA6-DNSALL/EX-01 DeviceNet slave module for connecting AGP to DeviceNet network.</p>	<p>CompactFlash® card Inserts into the unit's CF card slot.</p> <p>512MB CA3-CFCALL/512MB-01</p> <p>1GB CA6-CFCALL/1GB-01</p>	<p>CompactFlash® Card Adapter GP077-CFAD10 Used for read/write of CF card data via a PC's PCMCIA slot.</p>	<p>Panel Cutout Adapter for AGP3500 Series CA4-ATM10-01 Panel cutout adapter for mounting in cutout of GP2500 (TFT).</p> <p>Panel Cutout Adapter for AGP3300 Series CA4-ATM5-01 Panel cutout adapter for mounting in cutout of GP37W2B.</p>

				
USB Transfer Cable (1m) CA3-USBCB-01 Downloads project data created with GP-Pro EX from PC's USB port to AGP's USB port.	USB Cable (5m) FP-US00 Connects a USB printer (Type B) port to AGP's USB port.	USB Front Cable (1m) CA5-USBEXT-01 USB extension cable.	RS-232 Cable (5m) CA3-CBL232/5M-01 Connects Mitsubishi PLC A-Series to the AGP RS-232 COM port.	GP RS-422 Cable (5m) CA3-CBL422-01 Connects the AGP RS-422 COM port 2 via 9-pin plug to host controller via open wires.
				
RS-422 Cable (5m) CA3-CBL422/5M-01 Connects the AGP RS-422 COM port 1 via 9-pin socket to host controller via open wires.	Mitsubishi PLC A-Series Connection Cable (5m) CA3-CBLA-01 Connects Mitsubishi PLC A-Series and QnA-Series programming console port to AGP.	Mitsubishi PLC Q-Series Cable (5m) CA3-CBLQ-01 Connects Mitsubishi PLC Q-Series programming console port to AGP. Connection cable.	Mitsubishi PLC Q-Series Cable (5m) CA3-CBLLNKMQ-01 Connects Mitsubishi PLC Q-Series to the AGP RS-232C COM port. Link cable.	Mitsubishi PLC FX-Series Cable CA3-CBLFX/5M-01 (5m) CA3-CBLFX/1M-01 (1m) Connects Mitsubishi PLC FX-Series programming console port to AGP RS-422 COM port.
				
Omron PLC SYSMAC Link Cable (5m) CA3-CBLSYS-01 Connects Omron PLC SYSMAC Series unit to AGP RS-232C port.	GP Multi-Link Cable (5m) CA3-CBLMLT-01 Connects a host controller to the AGP RS-422 port for multilink (n:1) communication.	GP 2 Port Adapter Cable (5m) CA3-MDCB11 Connects Mitsubishi PLC to the AGP RS-422 port using 2-port adapter II (GP070-MD11).	9-pin-to-25-pin RS-232C Conversion Cable CA3-CBLCBT232-01 9-pin D-sub socket to 25-pin RS-232 cable adapter (for use with some HMI-CAB-Cxxx cables).	9-pin-to-25-pin RS-422 Conversion Cable CA3-CBLCBT422-01 9-pin D-sub socket to 25-pin RS-422 cable adapter (for use with some HMI-CAB-Cxxx cables).
				
Allen-Bradley SLC™ 5/03, 5/04 Series Cable HMI-CAB-ST52 HMI-CAB-ST52-30X HMI-CAB-ST52-50X Connects AGP3000/ST401 to A-B PLC via RS-232 9-pin D-sub.	Ethernet Crossover Cable HMI-CAB-ETH 6-ft. HMI to PLC ethernet port or to program HMI.	MicroLogix™ PLC Cable HMI-CAB-ST106 Connects AGP3000/ST401 to PLC RS-232 8-pin DIN port.	PLC Adapter Cable HMI-CAB-ST001 Connects to AGP3000/ST40x serial port with 9-conductor open-ended wires for connecting to third-party screw terminal devices.	RS-232C Cross-Type Cable (5m) GP410-IS00-0 25-pin D-sub connector both ends. Requires CA3-CBLCBT232-01.
				
Serial USB Cable for Modem Download CA6-USB232-01	1-Amp Power Supply 510-1000-004 2-Amp Power Supply 510-1000-041 24VDC Din-Rail Mount Class 1 Div 2.	RS-485 Isolation Unit CA3-ISO485-01 RS-232 Isolation Unit CA3-ISO232-01 Unit for electrically isolating a serial interface signal from the AGP internal current (RS-422 and RS-485 are switchable, or RS-232C and RS-422 are switchable).	AGP3500T/AGP3550T Backlight Replacement CA5-BLU10T-01 AGP3750T Backlight Replacement CA3-BLU15-01 AGP3600T/AGP3650T Backlight Replacement CA3-BLU12-01 AGP3500S/GP2501S Backlight Replacement PS501S-BU00 <i>Note: AGP3300, AGP3400 and AGP3500L backlights cannot be replaced in the field.</i>	Protection Sheets Disposable, dirt-resistant cover for screen (5 sheets/set) 15" for AGP3750 series CA3-DFS15-01 12" for AGP3600 series CA3-DFS12-01 10" for AGP3500 series CA5-DFS10-01 8" for AGP3400 series PS400-DF00 6" for AGP/AST/LT33xx CA3-DFS6-01 3.8" for AGP/AST/LT 32xx CA6-DFS4-01

Third-Party Device Support

Drivers

PLC Drivers

Rockwell Automation

DF1
DH-485
EtherNet/IP (SLC500/PLC5/
MicroLogix)
EtherNet/IP (ControlLogix/
CompactLogix Tag-Based)
DeviceNet Slave

Siemens AG

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

FANUC

Power Mate Series

FATEK Automation Corporation

FB Series SIO

Fuji Electric Corp.

MICREX-F Series SIO
MICREX-SX Series SIO
MICREX-SX Series Ethernet

Hitachi Industrial Equipment Systems

HIDIC H Series Ethernet
HIDIC H Series
S10V Series Ethernet
S10 Series SIO

Hyundai Heavy Industries

Hi4 Robot Driver

KEYENCE Corp.

KV-700/1000 Series Ethernet
KV-700/1000 Series CPU Direct
KV-10/16/24/40 Series CPU Direct

Koyo Electronics Co. Ltd.

KOSTAC/DL Series CCM SIO
KOSTAC/DL Series Modbus TCP

LS Industrial Systems

XGT Series FEnet (Ethernet)
Master-K Series Cnet

Matsushita Electric Works

FP Series Computer Link SIO

Meidensha

UNISEQUE Series Ethernet

Mitsubishi Electric Corp.

A Series CPU Direct
A Series Ethernet
A Series Computer Link
FX Series CPU Direct
FX Series Computer Link
Q Series CPU Direct
Q/QnA Serial Communication
Q/QnA Series Ethernet
QnA Series CPU Direct
QUTE Series CPU Direct

Mitsubishi Heavy Industries

DIASYS Netmation Modbus TCP

OMRON Corp.

C/CV Series Host Link
CS/CJ Series Host Link
CS/CJ Series Ethernet
Temp. Controller CompoWay/F

RKC Instrument

Temp. Controller MODBUS SIO
Temp. Controller SIO

Saia-Burgess Controls

SAIA S-Bus SIO

Sharp MS Corp.

JW Series Computer Link SIO
JW Series Computer Link
Ethernet

Toshiba

Computer Link SIO
PROSEC-T Ethernet

Toshiba Machine

PROVISOR TC200 (SIO)

TOYODA Machine Works

(JTEKT Corp.)

TOYOPUC CMP-LINK SIO
TOYOPUC CMP-LINK Ethernet
TOYOPUC-PC3J Series

Yamatake

DMC50, SDC45 SIO

YASKAWA Electric Corp.

MEMOBUS SIO
MEMOBUS Ethernet
MP Series SIO (extension)

YOKOGAWA Electric Corp.

Personal Computer Link SIO
Personal Computer Link Ethernet
FA-M3 (Ethernet)

Temperature Controllers

Shinko Technos Co. Ltd.

Indicating Controller SIO

Yamatake Corp.

Digital Controller SIO

Yokogawa M&C

Personal Computer Link SIO

Fieldbus Module

CC-Link Partner Association

CC-Link Intelligent Device

ODVA

DeviceNet Slave

PROFIBUS International

PROFIBUS DP Slave

Other Connections

Digital Electronics Corp.

Memory Link (SIO and Ethernet)
General Ethernet (using D-Script)

Banner Engineering Corp.

PresencePlus Ethernet Cameras

IAI

X-Sel Controller

Please visit our web site for the most updated list of device drivers.

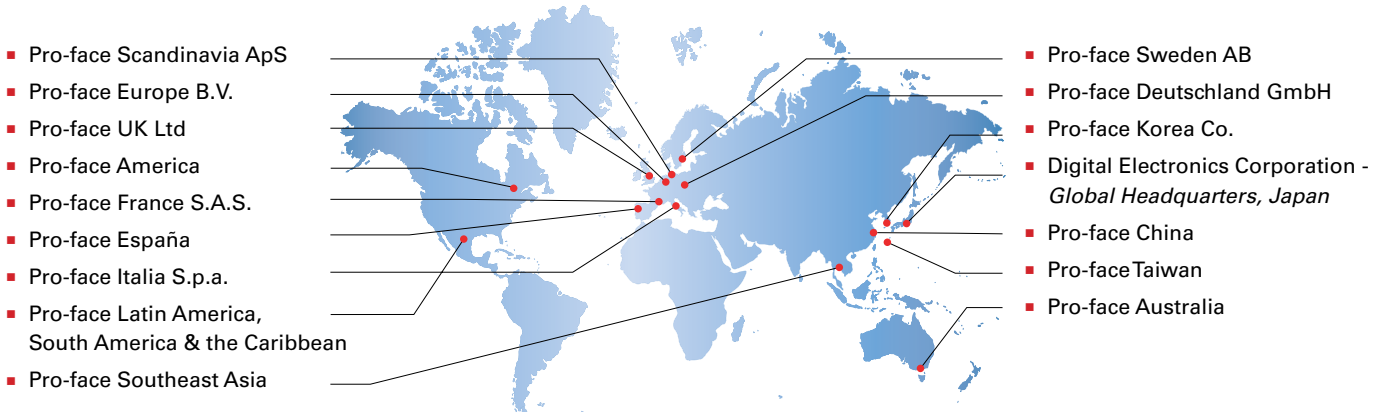
Bar-Code, 2-D Readers & Printers

	Manufacturer	Model	Type	Comments
Serial	Aimex Corp.	BR-530RS	Pen	Requires BB-60 power supply
	OPT Electronics	OPT-6125-RS	Touch scanner (read width: 65mm)	Requires DC5300T for power
	Denso Co.	HC-36I1TR	Touch scanner (read width: 61mm)	Requires P-200 for power; also requires KRS-423-XF1K connector cable (from Sanwa Supply)
	HHP	IT3800LR-12	Linear imager	Requires cable 42203758-03 (IT3800LR-12 reader has been shown to work but is not fully tested)
	Cognex	Dataman 7500	1-D and 2-D bar-code scanner	Requires cable 42206139-04E cable, also requires power supply
	Any/All	Any	Printer	ASCII text
USB	Aimex Corp.	BR-530UK	Pen	Power supply not required
	OPT Electronics	OPT-6125-USB	Touch scanner (read width: 65 mm)	Power supply not required
	Denso Co.	HC-36TU-K	Touch scanner (read width: 61mm)	Power supply not required
	HHP	IT5800	Hand-held industrial scanner	5800SR050-0F00 is complete with USB cable
	Symbol	LS3408-FZ	Hand-held industrial scanner	Part #LS3408-FZ20005 needs cable CBA-U01-S07ZA
	Symbol	LS2800	1-D bar-code scanner	
	Epson	Stylus Photo R200/R260	Inkjet printer	Use USB cable FP-US00 or commercial type
	Epson	Any	ECS/P24-J84(C) compatible	Use USB conversion cable IEE1284 (commercially available)
NEC	Any	PC-PR201-PL compatible	Use USB conversion cable IEE1284 (commercially available)	
ETH	Any/All	Any	Remote print server	Use ethernet network to connect to remote print server
	Any/All	Any	Printer	ASCII text

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