# **Pro-face**



**HMI Software** 

GP-Pro EX

## **Data Management Software**

Pro-Server FX

# 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**

# 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







# 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

# Flat-Panel Touch-Screen

Highly detailed graphical interface with built-in touch screen

**Open-Platform Industrial PCs** 

Built to withstand high-vibration,

Built-in redundancy using RAID-

New innovative technology sends alert when PC system status is out

Solid-state drive options available

PC touch-screen systems

-shock and -temperature

environments

enabled option

of tolerance

Monitors

Windows® XP, 2000-based industrial

- Sizes from 10" to 19" plus built-in keypad option on some models
- Sleek, innovative styling
- Global certifications and ratings

#### **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



# **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!



# 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**

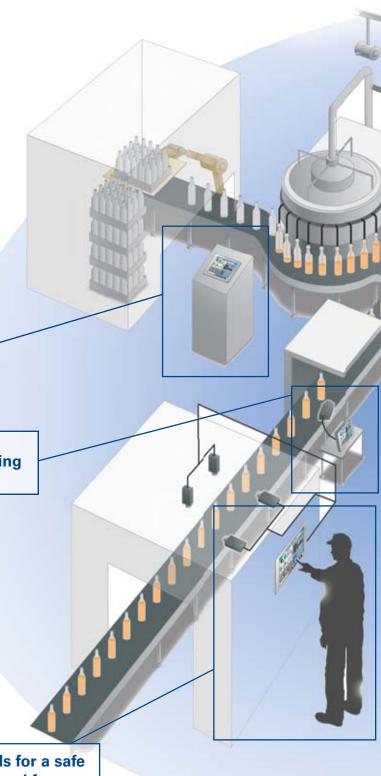
- Remote servicing
- Extensive diagnostic features

**HMIs for standalone machines** 

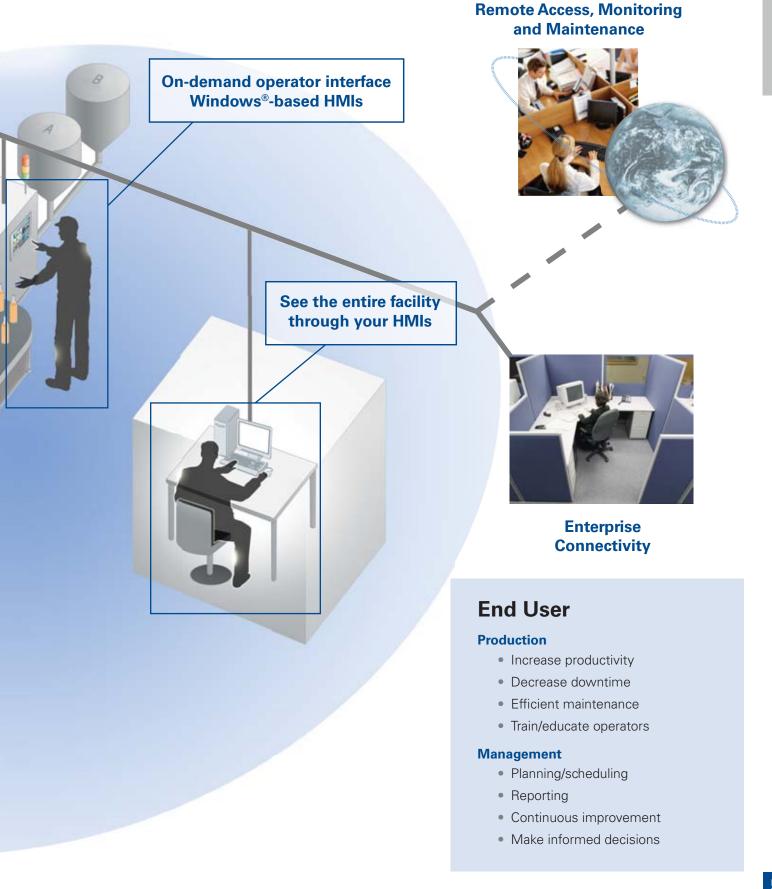
**HMIs for extensive networking** 

Work smarter, be informed, make the right choices

Instructional HMIs for a safe and informed workforce



# An Enterprise-Wide Solution



# 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

## rporate Enterprise and Beyond



# **Enterprise-wide Data Management**

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





# 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<sup>\*</sup>, Excel<sup>\*</sup>, 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



#### 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 🔣

# 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 unit screens from the Internet or via an intranet

#### ✓ WinGP

- On-demand operator interfaces
- GP-Pro EX runtime for Pro-face PS3000 Windows<sup>®</sup>-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

# Office Environment

Pro-Server

#### Enterprise-wide data sharing Server PC

- Pro-Server EX data management
- Databasa
  - ODBC
     Access<sup>™</sup>/Excel<sup>®</sup>
  - OracleOPCMES
- Remote PC Access (RPA) Server
  - PDF manuals and help files
  - and help filesCAD drawings

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

**Enterprise (Office)** 

#### Plant-Floor Control Room or Maintenance Office









# Remote Printing

Monitor and control HMI units on the plant floor

GP-Viewer EX

Monitor alarms or receive alarms via RSS feeds without asking

Web Server

Update recipes and collect data logs, images and event files from each HMI

FTP Client

PC health monitor, instant-alert Pro-Server EX/PS3000

Pro-Server EX

**Update and maintain HMIs** 

Transfer tool

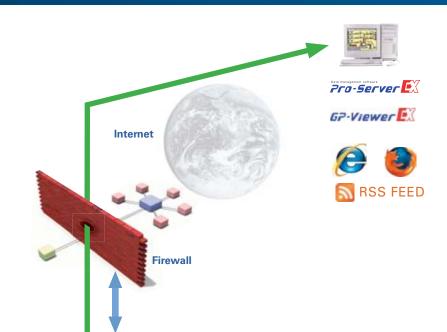






#### **Standard Operator Interface**

- 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

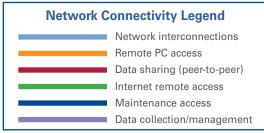


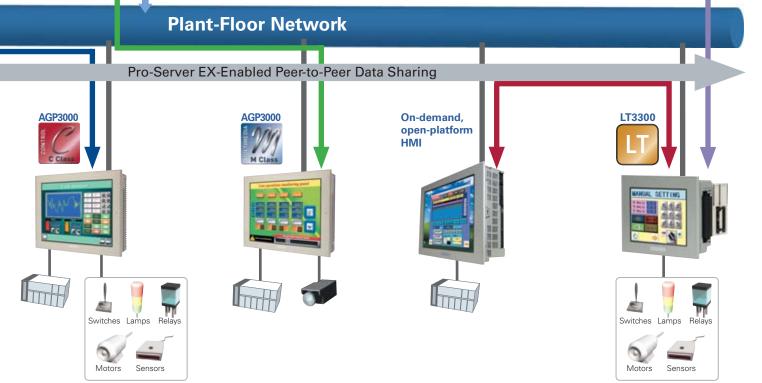
#### **OEM Remote Maintenance/Servicing**

- 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





# Operator Interface Plus Control

**Network** 

- 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

# **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

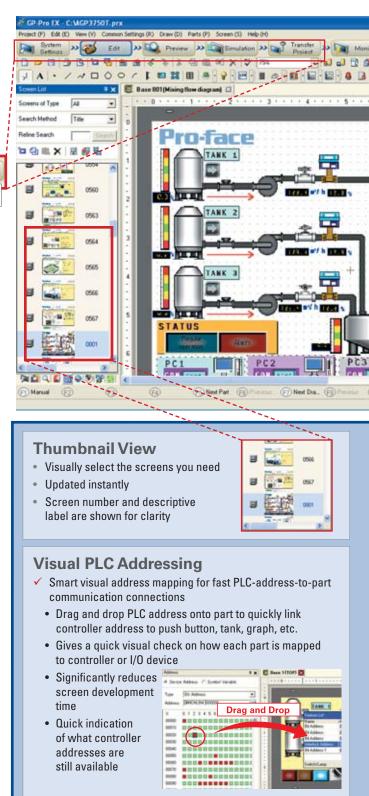
- Drag-and-drop addressing, parts and colors
- Efficient features to reduce development time
- Create consistent look and feel using the user-defined templates

#### 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



**Built-in Flexibility** 



# **Extensive Time-Saving Features**

Create consistent look and feel, detailed applications in minutes!

# Parts Number

#### **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

(E) Transfer (E) Simu (I)

(F10) Menu

 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



Right Technology (OEMs)

# 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







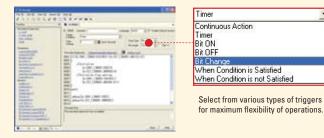
- OEM machine field upgrades no software needed
- · Log critical data for later retrieval and analysis
- Store images and movies





#### **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



#### **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**

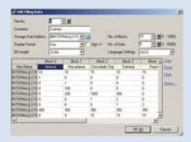
- Quick visual of current, event-triggered and historical alarms
- Alarm summary
- Acknowledge alarms
- Trigger help images or movies



#### Recipes

Right Solution (End Users)

- 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

Sette De Herrije

# **Choice of technology:** Pick the right HMI for the application

Dedicated operator interfaces for the factory floor:

- AGP3000
- LT3000
- AST3000

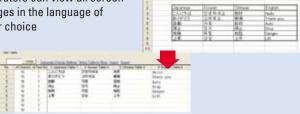
Windows-based for on-demand HMI:

- 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



#### Cameras

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





#### 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



# **Putting It Together**

- $\overline{\mathbf{V}}$ AGP3000 or AST3000 S Class, or PS3000 with WinGP installed
- GP-Pro EX software
- $\overline{\mathbf{V}}$ PLC cable: see Accessories



# Tools for Training Operators and Efficient Maintenance

# 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

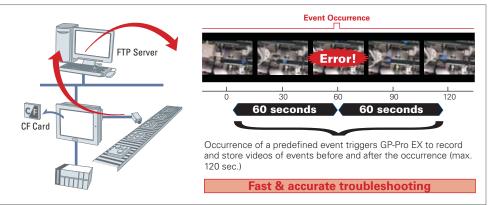
A picture is worth a thousand words; a video is worth a thousand pictures

Provide clear instructions to operators and maintenance personnel

#### Find root causes fast - see what happened before it happened

#### **Reduce Downtime**

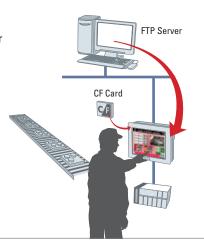
- Like an airplane "black box," record the events that led up to a fault, before the fault occurred
- The Event Recorder feature reduces the time required to find the root cause, and not the symptoms



#### 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.

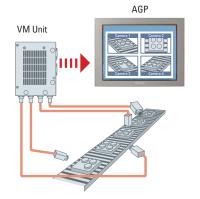
Note: Movie files you create must be converted with the Movie Converter EX converter tool, which requires the purchase of a license.

# 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



# Tools to Lower Overall System Cost

#### **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

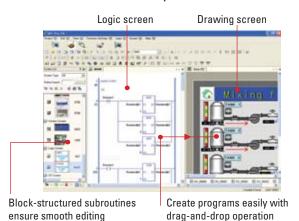
- One database for all variables
- No need for exporting and importing between packages

#### 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



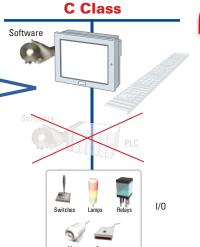






#### Reduce costs by reducing component count

# 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

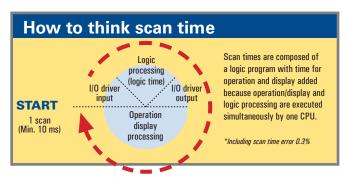
Cate	gory	Instruction Name	Instruction Notation	Ladder Symbol
		Normally Open	NO	⊣ ⊢
		Normally Closed	NC	4/-
	Bit Basic	Out	OUT	-0-
	Bit E	Negative Out	OUTN	-Ø-
		Set	SET	-S-
		Reset	RST	-®-
	se	Positive Transition	PT	⊣↑⊢
	Pulse Basic	Negative Transition	NT	⊣↓⊢
		Jump	JMP	-≫LABEL NAME
		Jump to Subroutine	JSR	->SUBROUTINE NAME«-
Ę		Return	RET	- RET -
Basic Instruction		Repeat number of times (For)	FOR	FOR S1
Ba	ıtrol	Repeat number of times (NEXT)	NEXT	NEXT
	Program Control	Inverse	INV	-/-
	Pr	Exit	EXIT	- EXIT
		Power Bar Control	PBC	PBC S1 D1
		Power Bar Reset PBR		PBR S1
		Logic Wait Instruction LWA		LWA S1
		On Delay Timer	TON	TON (ms) Q — PT ET
.5	<u> </u>	Off Delay Timer	TOF	TOF (ms) Q PT ET
nor Instruction		Pulse Timer	TP	TP (ms) Q PT ET
Ė		Accumulate On Delay Timer	TONA	TONA (rts) 0 — R PT ET
		Accumulate Off Delay Timer	TOFA	TOFA (ms) Q
i,		Up Counter	CTU <*P>	CTU Q R PV CV
a untar Instruction		Down Counter	CTD <*P>	CTD Q R PV CV
	3	Up/ Down Counter	CTUD <*P>	UP GU R GD PV CV
	Fime d/Write	Time Read	JRD <*P>	JRD D1
R/ W Instruction	Tin Read/	Time Set	JSET <*P>	JSET S1 D1
R/W Ir	Date d/ Write	Date Read	NRD <*P>	NRD D1
	Da Read/	Date Set	NSET <*P>	NSET S1 D1
uction	ration	Add	ADD <*P>	ADD S1 D1 S2
Operation Instruction	Arithmetic Operation	Subtract	SUB	SUB S1 D1 S2
led0	Arithm	Multiplication	MUL <*P>	MUL S1 D1 S2

Cate	gory	Instruction Name	Instruction Notation	Ladder Symbol
		Division	DIV <*P>	S1 D1 S2
	Operation	Modulation	MOD <*P>	M00 S1 D1 S2
	Arithmetic Operation	Increment	INC <*P>	- INC
		Decrement	DEC <*P>	DEC
	ime Operation	Time Addition	JADD <*P>	S1 D1
	Time 0	Time Subtraction	JSUB <*P>	JSUB S1 D1 S2
		Logical AND	AND <*P>	S1 D1
	Logical Operation	Logical OR	OR <*P>	OR
	Logical (	Logical XOR	XOR <*P>	X0R S1 D1 S2
		Logical NOT	NOT <*P>	NOT
Operation Instruction		Move (Copy)	MOV <*P>	MOV S1 D1
Operation	Shift Transfer	Block Move (Block Copy)	BLMV <*P>	S1 D1
		Fill Move	FLMV <*P>	FLMV S1 D1 S2
		Exchange	XCH <*P>	D1 02
		Shift Left	SHL <*P>	SHL S1 D1 S2
		Shift Right	SHR <*P>	SHR S1 D1 S2
		Arithmetic Shift Left	SAL <*P>	SAL S1 D1 S2
		Arithmetic Shift Right	SAR <*P>	SAR S1 D1 S2
		Rotate Left	ROL <*P>	80L S1 D1 S2
	Rotation	Rotate Right	ROR <*P>	RDR S1 D1 S2
	Ro	Rotate Left with Carry Over	RCL <*P>	RCL S1 D1 S2
		Rotate Right with Carry Over	RCR <*P>	S1 D1
		Sum	SUM <*P>	SUM S1 D1 S2
_	nction	Average	AVE <*P>	AVE S1 D1 S2
Function Instruction	Calculate Function	Square Root	SORT <*P>	SQRTS1 D1
Function	Ca	Bit Conut	BCNT <*P>	BCNT S1 D1
		PID	PID	S1 D1 S2 S3
	Frigonometric Function	Sine	SIN <*P>	SIN SI DI

Category		Instruction Name	Instruction Notation	Ladder Symbol
		Cosine	COS <*P>	COS S1 D1
	_	Tangent	TAN <*P>	TAN S1 D1
	ric Functior	Arc Sine	ASIN <*P>	ASIN S1 D1
Function Instruction	Trigonometric Function	Arc Cosine	ACOS <*P>	ACOS S1 D1
Function I		Arc Tangent	ATAN <*P>	ATAN S1 D1
		Cotangent	COT <*P>	COT S1 D1
	tion	Exponential	EXP <*P>	EXP S1 D1
	The other Function	Logarithm	LN <*P>	S1 D1
	The	Log Base 10	LG10 <*P>	LG10 S1 D1
	Arithmetic Compare	Equal	EΩ	EQ (n) S1 S2
		Greater Than	GT	GT (>) S1 S2
		Greater Than Or Equal To	GE	GE (5=) S1 S2
		Less Than	LT	LT (c) S1 S2
		Less Than Or Equal To	LE	LE (c=) S1 S2
Compare Instruction		Not Equal	NE	NE (cs) S1 S2
Compare		Time Compare Equal	JEQ	JEQ (n) S1 S2
		Time Compare Greater Than	JGT	JGT (>) S1 S2
	Time Compare	Time Compare Less Than	JLT	JLT (<) S1 S2
	Time C	Time Compare Greater Than Or Equal To	JGE	JGE (>=) S1 S2
		Time Compare Less Than Or Equal To	JLE	JLE (c=) S1 S2
		Time Compare Not Equal	JNE	JNE (๑) - S1 S2

Category		Instruction Name	Instruction Notation	Ladder Symbol
		Date Compare Equal	NEQ	NED (+) S1 S2
		Date Compare Greater Than	NGT	NGT (>) - S1 S2
Compare Instruction	Date Compare	Date Compare Greater Than Or Equal To	NGE	NGE (>=) S1 S2
Compare	Date	Date Compare Less Than	NLT	NLT (<) S1 S2
		Date Compare Less Than Or Equal To	NLE	NLE (c+) S1 S2
		Date Compare Not Equal	NNE	NNE (⇔) S1 S2
		BCD Convert	BCD <*P>	S1 D1
		BIN Convert	BIN <*P>	S1 D1
	Data Convert	Encode	ENCO <*P>	ENCO S1 D1
		Decode	DECO <*P>	DECO S1 D1
		Convert to Radian	RAD <*P>	RAD S1 D1
		Degree Convert	DEG <*P>	DEG S1 D1
tion		Scale	SCL <*P>	SCL S1 D1
Convert Instruction		Convert Integer to Float	2F 	S1 D1
Con		Convert Integer to Real	I2R <*P>	S1 D1
		Convert Float to Integer	F2I <**P>	F28 S1 D1
	ype Convert	Convert Float to Real	F2R <*P>	F2R S1 D1
	Type Co	Convert Real to Integer	R2I <*P>	R21 S1 D1
		Convert Real to Float	R2F <*P>	R2F S1 D1
		Convert Seconds	H2S <*P>	H2S S1 D1
		Convert Seconds to Time	S2H <*P>	S2H S1 D1

\*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.).



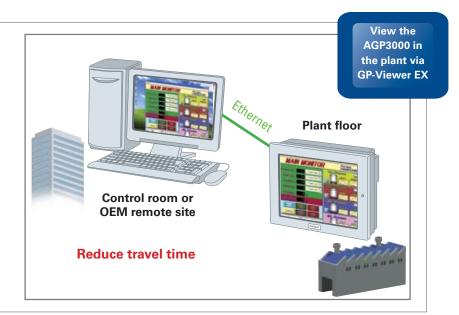
# Tools for Remote Connectivity and Access

#### 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.

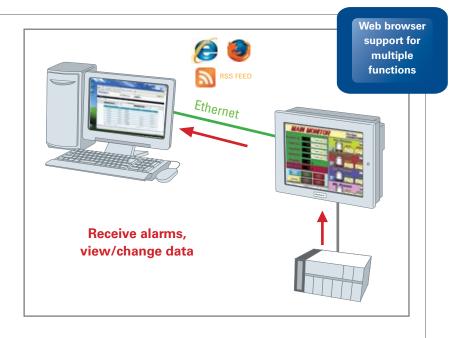
#### **GP-Viewer EX**

- ✓ 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

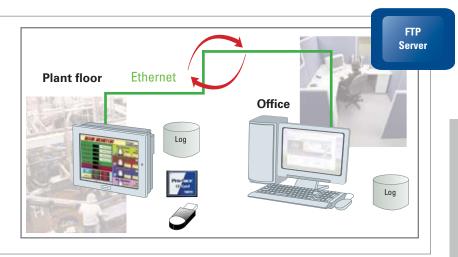
- ✓ View AGP information and alerts through a Web browser
  - View AGP alarms on any PC via Web browser or RSS reader
  - Remote troubleshooting, Web viewing of alarms; subscribe to alarm RSS feeds
  - View PLC and internal addresses for troubleshooting
  - View the screens in GP-Viewer EX while monitoring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





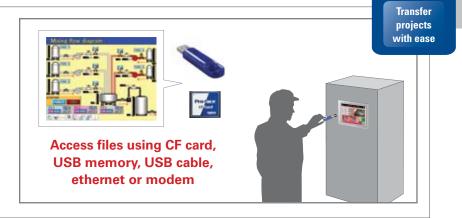
#### **FTP Server**

- ✓ 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



#### **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 0EM to transfer projects to end users without providing development software
  - Display model, driver & project information for troubleshooting



#### 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



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

# **Enterprise-wide Data Management Solutions**



# 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

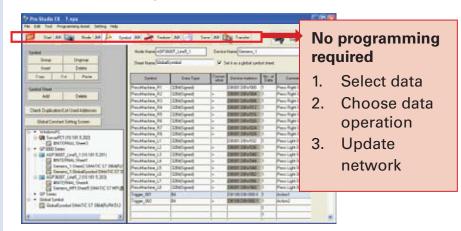
- OPC DA server
- DDE
- DLL
- API (VB, VB.NET, VC, C#.NET)
- Access<sup>™</sup>/Excel<sup>®</sup>
- ODBC, SQL, Oracle
- E-mail via SMTP
- MES actions

Collect and view up-to-theminute, 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

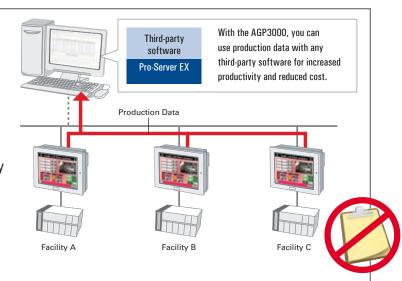
#### **Fast and simple**



- ✓ 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**

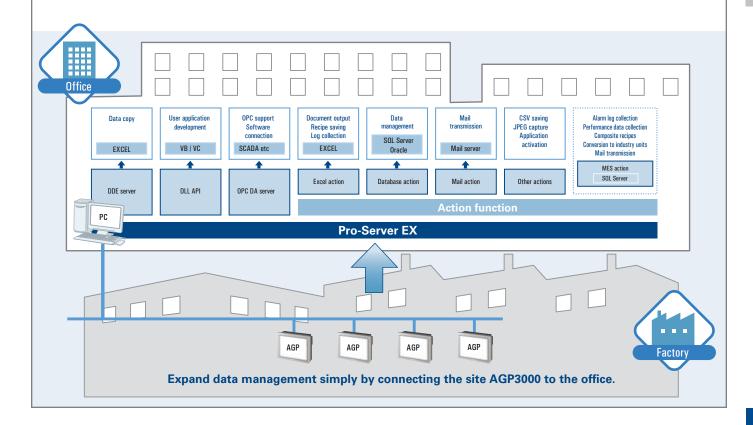
- · Collect data on a remote server
- In plant or across the Internet
- Send data to another department or around the world in real-time
- Update recipes/production parameters remotely
- · No more clipboard collection of data



#### **Enterprise integration**

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

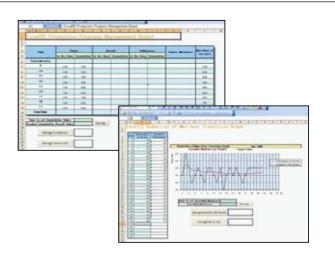
✓ OPC DA server	✓ DDE
✓ API (VB, VB.NET, VC, C#.NET)	✓ DLL
✓ Access <sup>™</sup> /Excel <sup>®</sup>	✓ ODBC, SQL, Oracle
✓ Image management	✓ PC health
✓ E-mail via SMTP	✓ MES



# Data Where You Need It

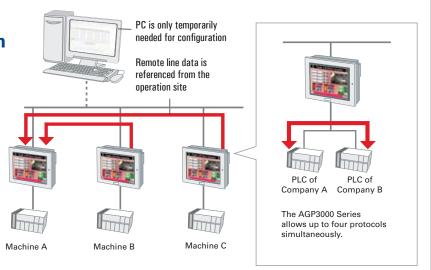
#### Reporting

- 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!

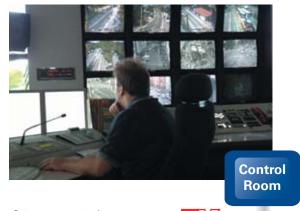


# Pro-Server EX Remote PC Monitoring

# 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!









Pro-face openplatform 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



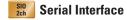
C Class

#### **Control C Class:**

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



	15-i	nch XGA	12-i	nch SVGA		10.4-inch	VGA	7.5-i
	S10 Ethernet Expansi Unit AUX SoundOut	on USB CF (Host) Card	SIO 2ch Ethernet Expansi Unit CF AUX SoundOut	on VM USB (Host)	SIO 2 Ch Ethernet Expansion Unit  VM USB (Host) Card  AUX SoundOut	SIO 2 Ch Ethernet Unit  AUX SoundOut	USB CF (Host) Card	SIO Ethernet  CF Card SoundOut
AGP3000	AC AGP3750-T1-AF	05 AGP3750-T1-D24	AC AGP3650-T1-AF		AC AGP3550-T1-AF AGP3560-T1-AF			65,555 co 195 AGP3450-T1-D24
AGP3000			AGP3600-T1-AF-D81C	AGP3600-T1-D24-D81C	AGP3500-T1-AF-D81K AGP3500-T1-AF-D81C AGP3500-T1-D24-D81K AGP3500-T1-D24-D81C	AC OD  AGP3500-S1-AF-D81C  AGP3500-S1-D24-D81K  AGP3500-S1-D24-D81C	Mono 16 shades  OC AGP3500-L1-D24-D81C	65 SE CO AGP3400-T1-D24-D81K AGP3400-T1-D24-D81C
C Class			AGP3600-AF-CA1M	AGP3600-T1-D24-CA1M	AGP3500-T1-AF-FN1M AGP3500-T1-AF-CA1M AGP3500-T1-D24-FN1M AGP3500-T1-D24-CA1M			AGP3400-T1-D24-CA1M
AGP3000			AGP3600-T1-AF	TFI 65.536 colors	AC OD AGP3500-T1-AF AGP3500-T1-D24 AGP3510-T1-AF	AGP3500-S1-AF AGP3500-S1-D24	Mono 15 shades  AGP3500-L1-D24	G5.534 co 1912 AGP3400-T1-D24
AST								



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

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



#### **USB Interface (Host)**

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



#### **CF Card Interface**

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



#### **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 Interface**

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



#### **Video Mix Unit Interface**

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



#### 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:**

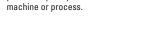
**AST**: Entry-level operator interfaces with serial ports and many powerful features LT: OEM HMI touch controllers ideal for standalone machines



nch VGA			5.7-inch	QVGA			3.8-inch	QVGA
Expansion USB (Host)	SIO 2 Ch Ethernet Unit	on USB CF Card		SIO Expansion USB Unit (Host	CF Card *	SIO 1 Ch Ethernet USE (Hos	3 t)	SIO * USB (Host)
	<sup>1</sup> CF not supported; single	SIO port only		*Not supported by AGP3	302B, AST3301 or LT3301			*Serial ports not supported by LT3201
AGP3400-S1-D24-D81C	AGP3300-T1-D24-D81K AGP3300-T1-D24-D81C	AGP3300-S1-D24-D81C	Mono 13 shades DC AGP3300-L1-D24-D81K AGP3300-L1-D24-D81C					
	AGP3300-T1-D24-FN1M AGP3300-T1-D24-CA1M		Mono 130 shades  OC  AGP3300-L1-D24-FN1M AGP3300-L1-D24-CA1M					
AGP3400-S1-D24	TF 65.534 000000000000000000000000000000000000	AGP3300-S1-D24	Mono 16 shades AGP3300-L1-D24	AGP3301-S1-D24 AGP3301-L1-D24	Blue 16 shades AGP3302-B1-D24	250 colo AGP3200-T1-D24	Amber 8 shades	
				AST3301-S1-D24	Blue shades AST3301-B1-D24			Amber 16 shades DC AST3201-A1-D24 AST3211-A1-D24
		LT3300-S1-D24-K <sup>1</sup>	Mono 15 shades LT3300-L1-D24-C <sup>1</sup> LT3300-L1-D24-K <sup>1</sup>	Mono 15 shades  LT3301-L1-D24-C LT3301-L1-D24-K				Amber 18 shades LT3201-A1-D24-C* LT3201-A1-D24-K*



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





Record audio to leave messages/ instructions for other operators.

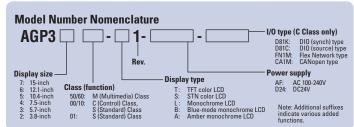


#### **DIO Interface**

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



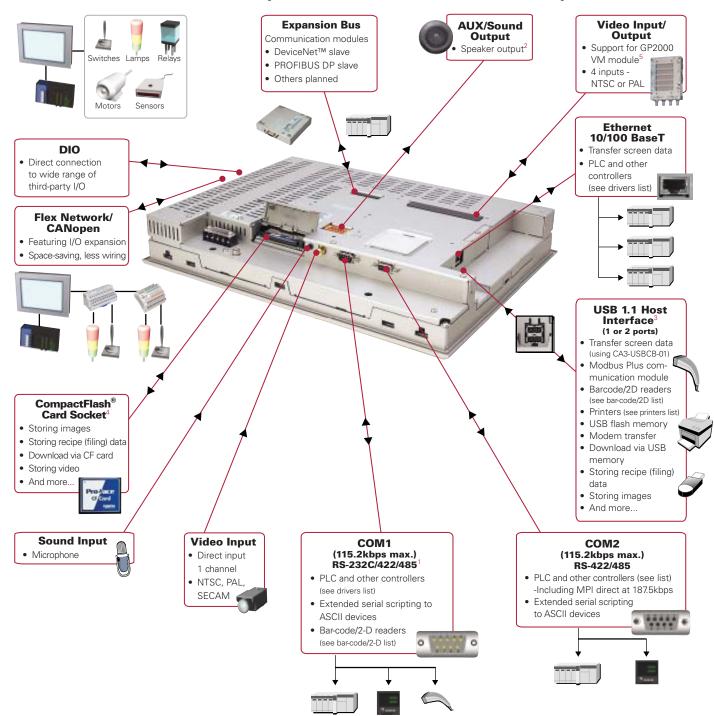
Distributed I/O architectures reduce wiring and installation costs by putting I/O where you need it.



# 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



AGP3302-B type model only has RS-232C asynchronous transmission
 AGP34xx, 35xx, 36xx and 37xx models include AUX/sound outputs

Sounds must be converted from .WAV format

Requires CA3-USBCB-01for transfer of screen data

Not available on 3302B or 32xx

Compatible with AGP35xxT and 36xxTTFT 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

<sup>•</sup> Up to four PLC protocols simultaneously (AGP33xx supports two).

Please refer to documentation for allowable configurations.

# Hardware

# Operator Interface Plus Multimedia











#### **AGP 3750T**

# **AGP 3650T**

#### **AGP 3550T**

Certifications

#### **AGP 3450T**

Certifications

Display

• TFT color LCD (65K colors)

• Analog touch screen (no grid)

#### Certifications



















#### DC24V

• 640 x 480 pixels





#### (h) (h) (€)

#### Display

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

#### Display

Certifications

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

#### 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: W395 [15.55in] x H294mm [11.57in] x D60mm [2.36in]

#### 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]

#### 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]

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

#### Ports & Interfaces

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

#### Ports & Interfaces

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

#### Ports & Interfaces

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

#### Model Numbers

AGP3750-T1-AF AGP3750-T1-D24 Model Numbers AGP3650-T1-AF

Model Numbers

AGP3550-T1-AF AGP3560-T1-AF

Model Numbers

AGP3450-T1-D24



# Standard Operator Interface









#### **AGP 3600**

#### **AGP 3500**

Certifications

#### **AGP 3400 AGP 3300**

#### Certifications

DC24V











Certifications

(h) (h) (h) (t)

Display

#### Certifications

3) IR: IR

Display

• TFT color LCD (65K colors)

Blue LCD (16 shades)

• 320 x 240 pixels

STN color LCD (4,096 colors) Monochrome B/W (16 shades)

• Analog touch screen (no grid)







#### (VL) (VL) (MF (€

### Display

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

#### • TFT color LCD (65K colors)

STN color LCD (4,096 colors) Monochrome B/W (16 shades)

Display

- 640 x 480 pixels
- 800 x 600 pixel (AGP3510 only) • Analog touch screen (no grid)
- TFT color LCD (65K colors) STN color LCD (4,096 colors)
- 640 x 480 pixels

DC24V

· 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]

#### 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]

#### 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]

#### 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:
(2) USB	RS-232/422/48
CF Type II	Com2:
Expansion Bus	RS-422/485

#### Ports & Interfaces

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

#### Ports & Interfaces

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

#### 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

AGP3600-T1-AF AGP3600-T1-D24

#### Model Numbers

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

#### Model Numbers

AGP3400-T1-D24 AGP3400-S1-D24

#### Model Numbers

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









#### **AST 3301**

#### **AGP 3200**

#### **AST 3201**

# Right-size, right-technology solutions

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

Certifications

Certifications

Certifications

What size displays do you need?















DC24V





#### Display

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

#### Display

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

#### 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: W167.5mm [6.59in] x H135mm [5.31in] x D59.5mm [2.34in]

#### 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]

#### 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]

#### What PLCs/protocols will you use?

#### Ports & Interfaces

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

#### Ports & Interfaces

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

#### Ports & Interfaces

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

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

#### Model Numbers

AST3301-B1-D24 AST3301-S1-D24

#### Model Numbers

AGP3200-T1-D24 AGP3200-A1-D24

#### Model Numbers

AST3201-A1-D24 AST3211-A1-D24  What other devices will you need, ie bar-code, temperature controllers or other third-party devices?

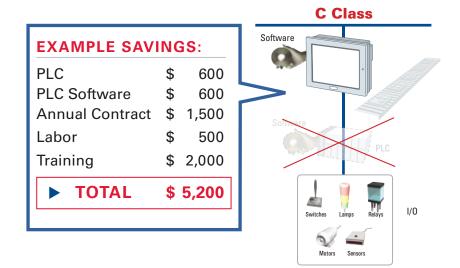


# Control Class: Lowering Overall System Cost

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

#### Reduce cost by reducing component count

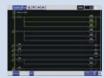
- One development software for both ladder logic and screen graphics
- Built-in I/O interface
- Use industry-standard I/O



#### **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/IPTM native tag driver. Check the Pro-face Device PLC manual for details.

# **Operator Interface Plus Control**











# **AGP 3600**

# **AGP 3500**

#### **AGP 3400**

## **AGP 3300**

#### 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

one:	DIO <sup>1</sup> : 6 in/2 out
5	
Shoose c	Flex Network <sup>2</sup>
Ĕ	
<u></u>	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

# 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 <sup>1</sup> : 6 in/2 out
	Flex Network <sup>2</sup>
	CANopen to Pro-face or third-party slaves

#### Model Numbers

AGP3500-T1-AF-D81K AGP3500-T1-D24-CA1M AGP3500-S1-AF-D81K AGP3500-T1-AF-D81C 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

#### Certifications

#### **(I)** (II) (II) 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-232/422/48
CF Type II	Com2:
Expansion Bus	RS-422/485

#### I/O Architectures

	DIO <sup>1</sup> :
one:	6 in/2 out
5	
Shoose (	Flex Network <sup>2</sup>
ے	
ವ	CANopen to Pro-face or third-party slave

#### 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

#### Certifications





3) IR: IR







#### 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

	ä	DIO <sup>1</sup> : 6 in/2 out <sup>2</sup>
	i ≧ I	
	Choose one:	Flex Network <sup>2</sup>
	ပ	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

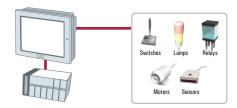


# Operator Interface Plus Control...

# 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

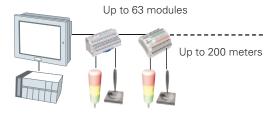


- ✓ Connect directly to I/O
- ✓ Eliminate or enhance the PLC
- ✓ Ladder logic included

#### 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 discrete output, 1 common FN-Y08RL41

FN-Y08RL41



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

FN-XY16SK41



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

32-Point

32-point discrete input FN-X32TS41



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

#### Analog I/O modules





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



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



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



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

# ...With Local and Distributed I/O Solutions

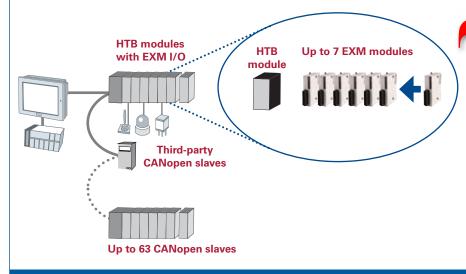


#### **NEW!**

#### 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 input module **EXM-DDI16DT** 

#### Discrete output modules



8-Point

16-Point

8-point relay output module

EXM-DRA8RT

module EXM-DRA16RT

8-point sink output module

**EXM-DD08UT**16-point sink output

module EXM-DD016UK

8-Point

16-Point

8-point output source module **EXM-DD08TT** 

16-point output source module

EXM-DD016TK

#### Mixed discrete I/O modules



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

#### Analog I/O modules



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



1-channel analog output module EXM-AMO1HT

# 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

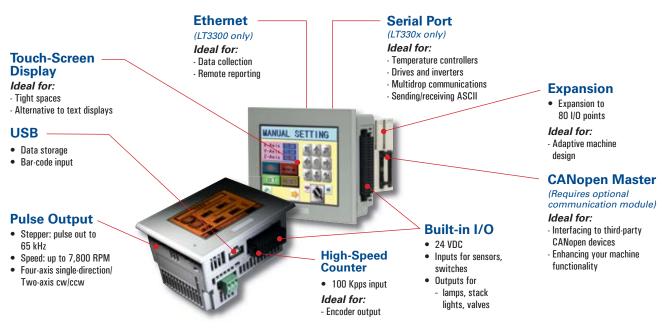
LT3000 Series - A space-saving control solution

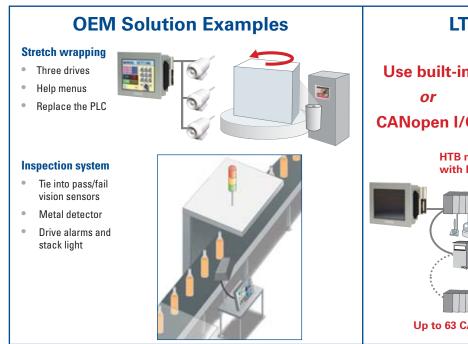
#### **Typical applications**

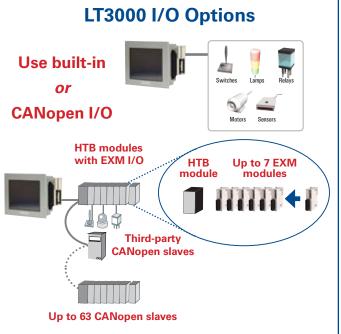
- · Motor speed control
- Wrapping machines
- · Feeder machines
- · Inspection systems
- Labeling machines



# **LT3000 Series Features**









8-point input module EXM-DDI8DT



16-point input module FXM-DDI16DT



# 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 out1

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

LT3000 OEM HMI Touch Controllers

LT 3301

#### Certifications



#### Display

- Monochrome B/W LCD (16 shades)
- 320 x 240 pixels

DC24V

· 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 out1

Expansion I/O up to 3 EXM modules

CANopen to Pro-face or third-party slaves (Requires optional

#### Model Numbers

LT3301-L1-D24K LT3301-L1-D24C

#### Certifications

LT 3201

#### (Jr) (Jr) (Jr) (Jr) DC24V

- 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 out1

Expansion I/O up to 2 EXM modules

CANopen to Pro-face or third-party slaves (Requires optional

#### Model Numbers

LT3201-A1-D24K LT3201-A1-D24C

#### Discrete output modules



8-point relay output module EXM-DRA8RT

#### 16-point relay output



module **EXM-DRA16RT** 



8-point sink output module EXM-DD08UT

#### 16-point sink output module



EXM-DD016UK



8-point output source module





16-point output source

EXM-DD016TK

#### Mixed discrete I/O modules



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

#### Analog I/O modules



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



1-channel analog output module EXM-AM01HT

# Hardware

# Software and Accessories



GP-Pro EX HMI Development Software EX-ED-Vxx (Includes one user license)

(includes one user licens

Additional GP-Pro EX Development License EX-ED-LICENSE

#### Remote PC Access (RPA) EX-RPA (1) runtime license

10-Pack User Licenses: FX-RPA-10

30-Pack User Licenses: EX-RPA-30

#### AGP3000 Movie Converter Software EX-MOVCON-LICENSE

M-Class Units: Required to convert videos into AGP3000 Series format

#### GP-Viewer EX Remote Monitoring Software EX-VIEWER LICENSE

(Requirements: One license for each GP3000 Series with Ethernet port)

10-Pack User Licenses: EX-VIEWER LICENSE-10

30-Pack User Licenses: EX-VIEWER LICENSE-30



Pro-Server EX Data Management Software EX-SDV-Vxx

(Includes one user license)

Additional User License EX-SED-LICENSE



Manufacturing Execution System (MES) Action License EX-MES-LICENSE-Vxx

**EX-MES-LICENSE-Vxx**Allows one installation from Pro-Server EX



AUX Connector CA5-AUXCNALL-01

The AUX connector for AGP3000 series required in case an external output is used.



Terminal Block Conversion CA3-ADPTRM-01

9-pin male D-sub to screw terminal.



#### Siemens COM Port Conversion Adapter CA3-ADPSEI-01

9-pin D-sub to MPI adapter. Adapts COM port to accept Profibus MPIstyle connectors and cables.



#### 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.



#### 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-

NOTE: Includes network pull-up/pu down resistors. Not intended for AGP3302 model.



DC Power Supply Connector for AGP330x and AGP34x0 models CA5-DCCNM-01



DC Power Supply Connector for AGP35x0 and AGP36x0 models CA5-DCCNL-01



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.



#### USB Cable Clamp (2-port) CA5-USBATL-01

USB cable clamp for 2-port HMI units to prevent disconnection.



#### USB Cable Clamp (1 port) CA5-USBATM-01

USB cable clamp for 1-port HMI units to prevent disconnection.



#### Installation Fastener CA3-ATFALL-01

Used to install the AGP3000 Series into a solid panel (included with unit).



#### PROFIBUS Slave Unit CA5-PFSALL/EX-01

PROFIBUS slave communication module for connecting AGP to PROFIBUS DP network.

#### DeviceNet™ Slave Unit CA6-DNSALL/EX-01

DeviceNet slave module for connecting AGP to DeviceNet network.



# CompactFlash® card Inserts into the unit's CF card slot.

512MB CA3-CFCALL/512MB-01 1GB

CA6-CFCALL/1GB-01



#### CompactFlash<sup>®</sup> Card Adapter GP077-CFAD10

Used for read/write of CF card data via a PC's PCMCIA slot.



#### Panel Cutout Adapter for AGP3500 Series CA4-ATM10-01

Panel cutout adapter for mounting in cutout of GP2500 (TFT).

#### Panel Cutout Adapter for AGP3300 Series CA4-ATM5-01

Panel cutout adapter for mounting in cutout of GP37W2B.



#### 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-O

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.



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

Note: AGP3300, AGP3400 and AGP3500L backlights cannot be replaced in the field.

#### Protection Sheets

Disposable, dirtresistant 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**

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

#### Yokogowa 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						
Serial	Manufacturer	Model	Туре	Comments		
	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-36IITR	Touch scanner (read width: 61mm)	Requires P-200 for power; also requires KRS-423-XF1K connector cable (from Sanwa Supply)		
	ННР	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		
	ННР	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		

# Worldwide Service and Support

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We have offices around the corner and around the world. We are there for you with our combination of channel partners, area sales managers, local field application engineers and a team of trained application engineers to support you before and after the sale. We're also there for you globally!

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ISO 9001:2000 Quality System Certified

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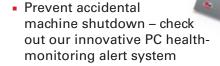
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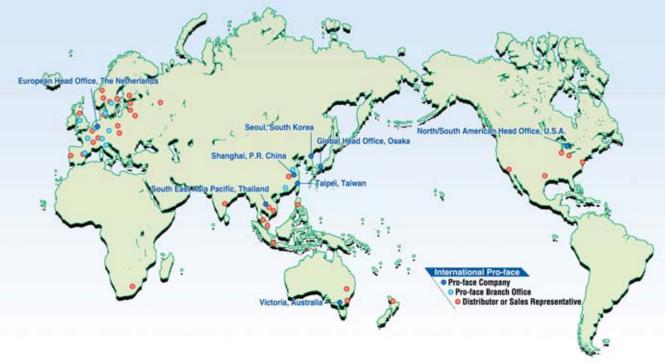
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