![Unitronics logo]

PLC + HMI **In One Unit**

Unitronics Distributors Worldwide

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Cyprus: Anaxagoras Pneumatics Ltd.

Czech Republic: Schmachtl CZ, spol. s r.o.

Denmark: Desim Elektronik ApS

Estonia: Klinkmann Eesti AS

Finland: Klinkmann Automation Oy

France: PL SYSTEMS

Germany: Spectra Computersysteme GmbH

Greece: Automation & Power Control Ltd

Hong Kong: Automate Control Engineering Ltd.

Honduras: Electrical Dealer

Hungary: Kvalix Automatika Kft.

India: Rajdeep Automation Pvt Ltd

Ireland: Automated Components Ireland Ltd (ACI)

Israel: Zivan Instruments Co. Ltd.

Italy: TELESTAR s.r.l.

PLC + HMI in One Unit

Unitronics designs, manufactures, and markets quality PLCs for the global market.

Easy to use, efficient, and affordable, our products have been automating processes, systems, and stand-alone applications since 1989.

We maintain more than 140 distributors in over 50 countries around the globe, enabling our customers to purchase our products with local marketing support.

Unitronics' field-proven PLCs automate tens of thousands of installations in diverse fields: petrochemical, automotive, food processing, plastic & textile, energy & environment, water & waste water management—anywhere automated processes are required.

Our clients include: Coca-Cola, General Motors, Michelin, Tupperware, Intel, Bayer, Colgate-Palmolive, Bosch-Rexroth, ABB, Land Instruments, Mercedes, Agfa, Tyson Foods, Pirelli, Fiat, Samsonite.

PLC + HMI = OPLC™

The advantages of Complete Control:

- Reduced programming—a single programming environment for both PLC and HMI applications

- Less wiring, less space required

- Saves I/O points and reduces hardware

- Panel-PLC communication is built-in
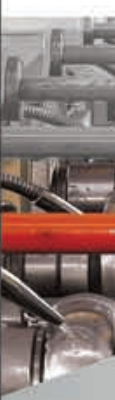
Vision1210™/1040™ Color OPLC™

Color Vision1210™/1040™ Series Featuring:

HMI

- Up to 1024 user-designed screens
- 500 images per application
- HMI graphs—color-code Trends
- Built-in alarm screens
- Text String Library—easy localization
- Troubleshoot via the HMI panel—no PC needed

PLC

- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- Micro SD card—log, backup, clone, & more
- Time-based control in 3 clicks

Communication

- TCP/IP via Ethernet
- Web server: Use built-in HTML pages, or design complex pages to view and edit PLC data via the Internet
- Send e-mail function
- SMS messaging
- GPRS/GSM/CDMA enabled
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 & more
- DF1 Slave
- Ports: supplied with 2 isolated RS232/RS485 and 1 CANbus; 1 USB programming port; 1 port may be added for serial/Ethernet

V1210™

V1040™

An advanced PLC with an integrated 1210™/1040™ color Touchscreen, plus Snap-in and Expansion I/Os (up to 1000)

Article Number	V1040-T20B	V1210-T20BJ
I/O Options		
Snap-in I/O Modules	Plug these modules directly into the back of the Vision unit to create a self-contained PLC with up to 62 I/Os. Inputs may include Digital, Analog and Temperature Measurement. Outputs may include Transistor, Relay or Analog (sold separately).	
I/O Expansion	Local or Remote I/Os may be added via expansion port or via CANbus	
Program		
Application Memory	Application Logic: 2MB • Images: 80MB • Fonts: 1MB	
Scan Time	9μsec per 1K of typical application	
Memory Operands	8192 coils, 4096 registers, 512 long integers (32 bit), 256 double words (32 bit unsigned), 64 floats, 384 timers (32 bit), 32 counters Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words	
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data	
SD Card (Micro)	Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI & OS, clone PLCs	
USB	1 USB programming port (Mini-B)	
Enhanced Features	Trends: graph any value and display on HMI • Built-in Alarm management system • String Library: instantly switch HMI language	
Operator Panel		
Type	TFT LCD	
Display Backlight Illumination	white LED	
Colors	65,536 colors, 16-bit resolution • Brightness- Adjustable via touchscreen or software	
Display Resolution & Size	800 x 600 pixels (SVGA), 10.4"	800 x 600 pixels (SVGA), 12.1"
Touchscreen	Resistive, Analog	
Keyboard		
Number of keys	9 programmable function keys	Virtual Keypad
General		
Power Supply	12/24VDC	
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC	
Environment	NEMA4X/IP65 (when panel mounted)	NEMA4X/IP66/IP65 (when panel mounted)
Clock	Real-time clock functions (date and time)	

Vision570™/560™ Color OPLC™

Color Vision570™/560™ Series Featuring:

HMI

- Up to 1024 user-designed screens
- 500 images per application
- HMI graphs—color-code Trends
- Built-in alarm screens
- Text String Library—easy localization
- Virtual alpha-numeric keypad
- Troubleshoot via the HMI panel—no PC needed

PLC

- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- SD card—log, backup, clone, & more
- Time-based control in 3 clicks

Communication

- TCP/IP via Ethernet
- Web server: Use built-in HTML pages, or design complex pages to view and edit PLC data via the Internet
- Send e-mail function
- SMS messaging
- GPRS/GSM/CDMA enabled
- Remote Access utilities
- MODBUS protocol support CANbus: CANopen, UniCAN, SAE J1939 & more
- DF1 Slave
- Ports: supplied with 2 isolated RS232/RS485 and 1 CANbus; In Vision570: 1 USB programming port; 1 port may be added for serial/Ethernet

V570-57-T20B-J

CONTROL ENGINEERING

2013 ENGINEERS' CHOICE AWARDS WINNER

CE/UL

V560™

An advanced PLC with an integrated 5.7" color Touchscreen, plus Snap-in & Expansion I/Os (up to 1000)

Article Number	V570-57-T20B	V570-57-T20B-J	V560-T25B*
I/O Options			
Snap-in I/O Modules	Plug these modules directly into the back of the Vision unit to create a self-contained PLC with up to 62 I/Os. Inputs may include Digital, Analog, and Temperature measurement. Outputs may include Transistor, Relay, or Analog. (sold separately)		
I/O Expansion	Local or Remote I/Os may be added via expansion port or via CANbus		
Program			
Application Memory	Application Logic: 2MB • Images: 12MB • Fonts: 1MB		
Scan Time	9μsec per 1K of typical application		
Memory Operands	8192 coils, 4096 registers, 512 long integers (32-bit), 256 double words (32-bit unsigned), 64 floats, 384 timers (32-bit), 32 counters. Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words		
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data		
SD Card	Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI & OS, clone PLCs		
Enhanced Features	Trends: graph any value and display on HMI • Built-in Alarm management system • String Library: instantly switch HMI language		
Operator Panel			
Type	TFT LCD		
Display Backlight Illumination	White LED		
Colors	65,536 colors, 16 bit resolution • Brightness- Adjustable via touchscreen or software		
Display Resolution & Size	320 x 240 pixels (QVGA), 5.7"		
Touchscreen	Resistive, Analog		
Keyboard			
Number of keys	Virtual keyboard		24 programmable keys. Labeling options – function keys or customized
General			
Power Supply	12/24VDC		
Battery	7 years typical at 77°F; battery back-up for all memory sections and RTC		
Environment	NEMA4X/IP65 (when panel mounted)	NEMA4X/IP66/IP65 (when panel mounted)	NEMA4X/IP65 (when panel mounted)
Clock	Real-time clock functions (date and time)		

* Not yet UL certified

Vision350™ Color OPLC™

Color Vision350™ Series Featuring:

HMI

- 1024 user-designed screens and 250 images per application
- HMI graphs—color-code Trends
- Built-in alarm screens
- Text String Library—easy localization
- Troubleshoot via the HMI panel— no PC needed

PLC

- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- Micro SD card—log, backup, clone, & more
- Time-based control in 3 clicks

Communication

- GPRS/GSM/CDMA enabled
- TCP/IP via Ethernet
- Web server: Use built-in HTML pages, or design complex pages to view and edit PLC data via the Internet
- SMS messaging, Send e-mail function
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 & more
- DF1 Slave
- Ports: supplied with1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus

Flat Panel

New!

Classic Panel

V350-J

V350

[1] In these models certain inputs are adaptable, and can function as either digital, analog, and in certain models also as thermocouple or PT100. Using adaptable inputs reduces the amount of free digital inputs. For example, V350-35-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4 digital inputs, leaving 8 free.

[2] Certain inputs can function as high-speed counters, shaft-encoder inputs, or normal digital inputs.

[3] This specification depends on cable length.

[4] This specification depends upon driver type.

Color it beautiful!

Power PLC, Color Touchscreen & onboard, expandable I/Os (up to 512)

... The world's smallest PLC with an integrated Color Touchscreen ...

CE/UL

New

Article Number										
Classic Panel	V350-**35**-B1	V350-**35**-TR20	V350-**35**-R34	V350-**35**-TR34	V350-**35**-TR6	V350-**35**-RA22	V350-**35**-TRA22	V350-**35**-T2	V350-**35**-T38	V350-**35**-TA24
Flat Panel	V350-**J**-B1	V350-**J**-TR20	V350-**J**-R34	V350-**J**-TR34	V350-**J**-TR6	V350-**J**-RA22	V350-**J**-TRA22	V350-**J**-T2	V350-**J**-T38	V350-**J**-TA24
	No onboard I/Os	**10** Digital **2** D/A Inputs[1] **6** Relay Outputs **2** High-speed Transistor Outputs	**20** Digital **2** D/A Inputs[1] **12** Relay Outputs	**20** Digital **2** D/A Inputs[1] **8** Relay **4** High-speed Transistor Outputs	**6** Digital **2** D/A, **4** Analog Inputs[1] **6** Relay **2** High-speed Transistor Outputs	**8** Digital **2** D/A, **2** PT100/TC/ Digital[1] Inputs **8** Relay **2** Analog Outputs	**8** Digital, **2** D/A **2** PT100/TC/ Digital[1] Inputs **4** Relay, **2** Analog **4** High-speed Transistor Outputs	**10** Digital **2** D/A Inputs[1] **12** Transistor Outputs	**20** Digital **2** D/A Inputs[1] **16** Transistor Outputs	**8** Digital **2** D/A, **2** PT100/ TC/Digital[1] Inputs **10** Transistor **2** Analog Outputs

Inputs

Digital	None	**12**	**22**	**22**	**8**	**12**	**12**	**12**	**22**	**12**
HSC/Shaft-Encoder/ Max Freq. Measurer[2&3]		**3** 200kHz[4] 32-bit	**3** 30kHz 32-bit	**3** 200kHz[4] 32-bit	**1** 200kHz[4] 32-bit	**1** 30kHz 32-bit	**1** 200kHz[4] 32-bit	**3** 30kHz 32-bit	**2** 30kHz 32-bit	**1** 30kHz 32-bit
Analog		**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA, 4-20mA **and** **4** 10-bit, 0-20mA 4-20mA	**2** 14-bit 0-10V, 0-20mA 4-20mA	**2** (2 modes) Normal: 14-bit Fast: 12-bit 0-10V, 0-20mA 4-20mA	**2** 10-bit 0-10V 0-20mA 4-20mA	**2** 10-bit 0-10V, 0-20mA 4-20mA	**2** (2 modes) Normal:14-bit Fast: 12-bit 0-10V, 0-20mA, 4-20mA
Temperature Measurement		None	None	None	None	**and as** **2** PT100/TC	**and as** **2** PT100/TC	None	None	**and as** **2** PT100/TC

Outputs

Digital		**6** relay	**12** relay	**8** relay	**6** relay	**8** relay	**4** relay	**12** pnp	**16** pnp	**10** pnp
High-speed Outputs/PWM		**2** npn (2 PTO) 200kHz max	None	**4** npn (3 PTO) 200kHz max	**2** npn (2 PTO) 200kHz max	None	**4** npn (2 PTO) 200kHz max	**7** 0.5kHz	**7** 0.5kHz	**5** 0.5kHz
Analog		None	None	None	None	**2** 12-bit 0-10V, 4-20mA	**2** 12-bit 0-10V, 4-20mA	None	None	**2** 12-bit 0-10V, 4-20mA

I/O Expansion

	Local or Remote I/Os may be added via expansion port or via CANbus

Program

Application Memory	Application Logic: 1MB • Images: 6MB • Fonts: 512K
Scan Time	15μ sec per 1K of typical application
Memory Operands	8192 coils, 4096 registers, 512 long integers (32-bit), 256 double words (32-bit unsigned), 64 floats, 384 timers (32-bit), 32 counters Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data
SD card (Micro)	Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI & OS, clone PLCs
Enhanced Features	Trends: graph any value and display on HMI • String Library: instantly switch HMI language

Operator Panel

Type & Colors	TFT LCD • 65,536 colors, 16-bit resolution • Brightness- Adjustable via touchscreen or software
Display	Resolution: 320 x 240 pixels (QVGA) • Size: 3.5"
Touchscreen	Resistive, Analog
Keys	5 programmable keys. Labeling options- function keys, arrows, or customized

General

Power Supply	24VDC, except for V350-35-B1, which is 12/24VDC
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC
Environment	NEMA4X/IP66/IP65 (when panel mounted)
Clock	Real-time clock functions (date and time)

Vision130™ Graphic OPLC™

Vision130™ Series Featuring:

HMI

- 1024 user-designed screens and 400 images per application
- HMI graphs & Trends
- Text String Library—easy localization
- Troubleshoot via the HMI panel—no PC needed

PLC

- I/O options include high-speed, temperature and weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- Micro SD card—log, backup, clone, and more
- Time-based control in 3 clicks

Communication

- GPRS/GSM/CDMA enabled
- TCP/IP via Ethernet
- Web server: Use built-in HTML pages, or design complex pages to view and edit PLC data via the Internet
- SMS messaging, Send e-mail function
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, J1939 & more
- DF1 Slave
- Ports: supplied with 1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus

Flat Panel

New!

V130-J

Classic Panel

V130

[1] In these models certain inputs are adaptable, and can function as either digital, analog, and in certain models also as thermocouple or PT100. Using adaptable inputs reduces the amount of free digital inputs. For example, V130-33-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4 digital inputs, leaving 8 free.

[2] Certain inputs can function as high-speed counters, shaft-encoder inputs, or normal digital inputs.
[3] This specification depends on cable length.
[4] This specification depends upon driver type.

... Complex recipe, TCP/IP environment! better use Vision130™...

CE/UL

More power & speed in this palm-size PLC with built-in Graphic LCD display, keypad, & onboard I/Os (expandable up to 256)

Article Number										
Classic Panel	V130-**33**-B1	V130-**33**-TR20	V130-**33**-R34	V130-**33**-TR34	V130-**33**-TR6	V130-**33**-RA22	V130-**33**-TRA22	V130-**33**-T2	V130-**33**-T38	V130-**33**-TA24
Flat Panel (New)	V130-**J**-B1	V130-**J**-TR20	V130-**J**-R34	V130-**J**-TR34	V130-**J**-TR6	V130-**J**-RA22	V130-**J**-TRA22	V130-**J**-T2	V130-**J**-T38	V130-**J**-TA24
	No onboard I/Os	**10** Digital **2** D/A Inputs[1] **6** Relay Outputs **2** High-speed Transistor Outputs	**20** Digital **2** D/A Inputs[1] **12** Relay Outputs	**20** Digital **2** D/A Inputs[1] **8** Relay **4** High speed Transistor Outputs	**6** Digital, **2** D/A **4** Analog Inputs[1] **6** Relay Outputs **2** High-speed Transistor Outputs	**8** Digital **2** D/A, **2** PT100/TC/ Digital[1] Inputs **8** Relay **2** Analog Outputs	**8** Digital, **2** D/A **2** PT100/TC/ Digital[1] Inputs **4** Relay, **2** Analog **4** High-speed Transistor Outputs	**10** Digital **2** D/A Inputs[1] **12** Transistor Outputs	**20** Digital **2** D/A Inputs[1] **16** Transistor Outputs	**8** Digital **2** D/A, **2** PT100/ TC/Digital[1] Inputs **10** Transistor **2** Analog Outputs

Inputs

Digital pnp/npn	None	12	22	22	8	12	12	12	22	12
HSC/Shaft-Encoder/ Max. Freq. Measurer[2&3]		**3** 200kHz[4] 32-bit	**3** 30kHz 32-bit	**3** 200kHz[4] 32-bit	**1** 200kHz[4] 32-bit	**1** 30kHz 32-bit	**1** 200kHz[4] 32-bit	**3** 30kHz 32-bit	**2** 30kHz 32-bit	**1** 30kHz 32-bit
Analog		**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA 4-20mA	**2** 10-bit, 0-10V 0-20mA, 4-20mA **and** **4** 10-bit, 0-20mA 4-20mA	**2** 14-bit 0-10V, 0-20mA 4-20mA	**2** (2 modes) Normal: 14-bit Fast: 12-bit 0-10V, 0-20mA 4-20mA	**2** 10-bit 0-10V 0-20mA 4-20mA	**2** 10-bit 0-10V, 0-20mA 4-20mA	**2** (2 modes) Normal:14-bit Fast: 12-bit 0-10V, 0-20mA, 4-20mA
Temperature Measurement		None	None	None	None	**and as** **2** PT100/TC	**and as** **2** PT100/TC	None	None	**and as** **2** PT100/TC

Outputs

Digital		**6** relay	**12** relay	**8** relay	**6** relay	**8** relay	**4** relay	**12** pnp	**16** pnp	**10** pnp
High-Speed Outputs/PWM		**2** npn (2 PTO) 200kHz max	None	**4** npn (3 PTO) 200kHz max	**2** npn (2 PTO) 200kHz max	None	**2** npn (2 PTO) 200kHz max	**7** 0.5kHz	**7** 0.5kHz	**5** 0.5kHz
Analog		None	None	None	None	**2** 12-bit 0-10V, 4-20mA	**2** 12-bit 0-10V, 4-20mA	None	None	**2** 12-bit 0-10V, 4-20mA

I/O Expansion

Local or Remote I/Os may be added via expansion port or via CANbus

Program

Application Memory	Application Logic: 512K • Images: 256K • Fonts: 128K
Scan Time	20μ sec per 1K of typical application
Memory Operands	4096 coils, 2048 registers, 256 long integers (32-bit), 64 double words (32-bit unsigned), 24 floats, 192 timers (32-bit), 24 counters. Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data
SD Card (Micro)	Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI & OS, clone PLCs
Enhanced Features	Trends: graph any value and display on HMI • Built-in Alarm management system • String Library: instantly switch HMI language

Operator Panel

Type	Graphic STN LCD, white LED backlight
Display	Resolution: 128 x 64 pixels • Size: 2.4"
Keys	20, including 10 user labeled keys (slide kit sold separately)

General

Power Supply	24VDC, except for V130-33-B1, which is 12/24VDC
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC
Environment	NEMA4X/IP66/IP65 (when panel mounted)
Clock	Real-time clock functions (date and time)

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Vision™ Graphic/Touch OPLC™

Vision™ Series Featuring:

HMI

- Up to 255 user-designed screens
- Hundreds of images per application
- HMI graphs & Trends
- Virtual alpha-numeric keypad (in V290 & V530)
- Troubleshoot via the HMI panel—no PC needed

PLC

- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 12 independent loops
- Recipe programs and datalogging via Data Tables
- Time-based control in 3 clicks

Communication

- Ethernet via TCP/IP
- SMS messaging
- GPRS/GSM/CDMA enabled
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, CANbus Layer 2
- Ports: supplied with 1 RS232, 1 RS232/RS485 and 1 CANbus; 1 port may be added for serial/Ethernet

C E / UL

Advanced PLCs with an integrated Operator Panel
(graphic or touch), plus Snap-in & expansion I/Os (up to 316)

	Vision230™	Vision260™	Vision280™	Vision290™	Vision530™
Article Number	V230-13-B20B	V260-16-B20B	V280-18-B20B	V290-19-B20B	V530-53-B20B
I/O Options					
Snap-in I/O Modules	Plug these modules directly into the back of the Vision unit to create a self-contained PLC with up to 62 I/Os. Inputs may include Digital, Analog and Temperature Measurement. Outputs may include Transistor, Relay or Analog (sold separately)				
I/O Expansion	Local or remote I/Os may be added via expansion port or via CANbus				
Program					
Application Memory	1MB				
Scan Time	30μsec per 1K of typical application				
Operands	4096 coils, 2048 registers, 256 long integers (32 bit), 64 double words (32 bit unsigned), 24 memory floats, 192 timers, 24 counters				
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data				
Operator Panel					
Type	STN LCD	Negative blue, STN LCD	Black & White FSTN LCD		
Display Resolution & Size	128 x 64 pixels 3.2"	240 x 64 pixels 5.4"	320 x 240 pixels (QVGA), 4.7" active area	320 x 240 pixels (QVGA), 5.7" active area	
Touch Screen	None	None	Resistive, Analog		
Keyboard					
Number of Keys	24 user labeled keys	33 user labeled keys	27 user labeled keys	Virtual keyboard	
General					
Power Supply	12/24VDC				
Battery Back-up	7 years typical at 77ºF, back-up for all memory sections and real-time clock (RTC)				
Environment	NEMA4X/IP65 (for panel, when mounted)				

Vision120™ Graphic OPLC™

Vision120™ Series Featuring:

HMI
- Up to 255 user-designed screens
- Hundreds of images per application
- HMI graphs & Trends
- Troubleshoot via the HMI panel — no PC needed

PLC
- I/O options include high-speed, temperature and weight measurement
- Auto-tune PID, up to 12 independent loops
- Recipe programs and datalogging via Data Tables
- Time-based control in 3 clicks

Communication
- GPRS/GSM/CDMA enabled
- SMS messaging
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, CANbus Layer 2
- 2 RS232/RS485 built-in ports

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[1] In these models certain inputs are adaptable, and can function as either digital, analog, and in certain models also as thermocouple or PT100. Using adaptable inputs reduces the amount of free digital inputs. For example, V120-22-UA2 offers 12 digital inputs. Implementing 2 TC inputs requires 4 digital inputs, leaving 8 free.

[2] Certain inputs can function as high-speed counters, shaft-encoder inputs, or normal digital inputs.

[3] This specification depends on cable length.

[4] Certain outputs can function as high-speed or PWM outputs.

C E / UL

Small-and-powerful PLC with built-in Graphic LCD display, keypad, & onboard I/O (expandable up to 256)

Article Number	V120-22-R1	V120-22-R2C	V120-22-R6C	V120-22-R34	V120-22-T1	V120-22-T38	V120-22-T2C	V120-22-UN2	V120-22-UA2	V120-22-RA22
	10 Digital **1** Analog Inputs **6** Relay Outputs	**10** Digital **2** Analog Inputs **6** Relay Outputs	**6** Digital **6** Analog Inputs **6** Relay Outputs	**20** Digital **2** D/A[1] Inputs **12** Relay Outputs	**12** Digital Inputs **12** Transistor Outputs	**22** Digital Inputs **16** Transistor Outputs	**10** Digital **2** D/A[1] Inputs **12** Transistor Outputs	**10** Digital **2** D/A/PT100/ TC[1] Inputs **12** Transistor Outputs	**10** Digital **2** D/A/TC[1] Inputs **10** Transistor **2** Analog Outputs	**8** Digital **2** D/A, **2** PT100/ TC/Digital[1] Inputs **8** Relay **2** Analog Outputs
Inputs										
Digital pnp/npn	**10**	**10**	**6**	**22**	**12**	**22**	**12**	**12**	**12**	**12**
HSC/Shaft-Encoder/ Max Freq. Measurer[2]	**3** 10kHz 32-bit	**3** 10kHz 32-bit	**1** 10kHz 32-bit	**3** 30kHz[3] 32-bit	**2** 10kHz 32-bit	**2** 30kHz[3] 32-bit	**3** 10kHz 32-bit	**2** 10kHz 32-bit	**1** 30kHz[3] 32-bit	**1** 30kHz[3] 32-bit
Analog	**1** 10-bit 0-10V, 0-20mA 4-20mA	**2** 10-bit 0-10V, 0-20mA 4-20mA	**6** 10-bit, **2** 0-10V 0-20mA, 4-20mA **and 4** 0-20mA 4-20mA	**2** 10-bit 0-10V, 0-20mA 4-20mA	None	None	**2** 10-bit 0-10V 0-20mA 4-20mA	**2** 14-bit 0-10V, 0-20mA 4-20mA	**2** 14-bit 0-10V, 0-20mA 4-20mA	**2** 14-bit 0-10V, 0-20mA 4-20mA
Temperature Measurement	None	None	None	None	None	None	None	**2** PT100/TC	**2** TC	**and as 2** PT100/TC
Outputs										
Digital	**6** relay	**6** relay	**6** relay	**12** relay	**12** pnp	**16** pnp	**12** pnp	**12** pnp	**10** pnp	**8** relay
High-Speed Outputs/ PWM[4]	None	None	None	None	**2**, first 2 outputs can function as HSO, 0.5kHz maximum					None
Analog	None	None	None	None	None	None	None	None	**2** 12-bit 0-10V, 4-20mA	**2** 12-bit 0-10V, 4-20mA
I/O Expansions										
	Local or Remote I/Os may be added via expansion port or via CANbus									
Program										
Application Memory	448K (virtual) Ladder code capacity									
Memory Scan Time	48μ sec per 1K of typical application									
Operands	4096 coils, 2048 registers, 256 long integers (32-bit), 64 double words (32-bit unsigned), 24 floats, 192 timers (32-bit), 24 counters									
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data									
Operator Panel										
Type	Graphic STN LCD									
Display	Resolution: 128 x 64 pixels • Size: 2.4"									
Keypad										
Keys	16 keys									
General										
Power Supply	12/24VDC	12/24VDC	24VDC	24VDC	12/24VDC	24VDC	12/24VDC	12/24VDC	24VDC	24VDC
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC									
Environment	NEMA4X/IP65 (when panel mounted)									
Clock	Real-time clock functions (date and time)									

Jazz® Micro-OPLC™

Jazz® series featuring:

Meet the New Jazz® 2 series Advantages:

- Faster performance - 30x faster
- Double the memory
- Built-in mini-USB programming port
- Ethernet via Add-on Port
- Fully compatible with current Jazz® models

HMI

- Up to 60 user-designed screens
- Multilingual: supports over 15 languages & 20 graphic symbols
- Scroll between pre-programmed recipes/menus

PLC

- Ladder Logic programming ensures functional flexibility
- Functions include: interrupt, loops, math, store & compare functions
- Time-based control in 3 clicks
- High-speed counters & PWM outputs
- Direct temperature inputs
- Auto-tune PID, up to 4 loops

Communication[2]

- SMS messaging via GSM
- Remote Access utilities
- PC access via MODBUS or OPC server
- MODBUS networking

[1] These models comprise a total of 10/20 inputs (model-dependent). 6/16 (model-dependent) of these may be wired, in a group, as either digital npn or pnp. 2 inputs have added functionality. Both may be wired in a group as npn, pnp, or analog (voltage) inputs. Note that it is also possible to individually wire 1 input as a pnp input, and the other as an analog input. The two remaining inputs are analog (current).

[2] In order to download applications and enable communications, install Jazz® with the appropriate Add-on Module.

[3] Certain inputs can function as high-speed counters, or as normal digital inputs.

Much more than a "smart relay". Full-function PLC and HMI, with up to 40 onboard I/Os, all in one device

New! Jazz®2 series

	JZ20-R10	JZ20-R16	JZ20-R31	JZ10-11-T10	JZ10-11-T17	JZ10-11-T40	JZ10-11-UN20	JZ10-11-UA24	JZ10-11-PT15
	6 Digital Inputs 4 Relay Outputs	6 Digital, 2 D/A, 2 Analog Inputs[1] 6 Relay Outputs	16 Digital, 2 D/A, 2 Analog Inputs[1] 11 Relay Outputs	6 Digital Inputs 4 Transistor Outputs	6 Digital, 2 D/A 2 Analog Inputs[1] 7 Transistor Outputs	16 Digital 2 D/A, 2 Analog Inputs[1] 20 Transistor Outputs	9 Digital, 2 D/A 1 Analog 1 PT100/TC Inputs[1] 5 Relay 2 Transistor Outputs	9 Digital, 2 D/A 2 Analog, 2 PT100/TC Inputs[1] 5 Relay, 2 Analog 2 Transistor Outputs	3 Digital, 3 D/A 3 PT1000/NI1000 Inputs[1] 5 Relay 1 Transistor Outputs
Inputs									
Digital pnp/npn	6	8	18	6	8	18	11	11	6
High-Speed Counters[4]	2 5kHZ, 16-bit						1 5kHZ, 16-bit		
Analog	None	2 10 or 12-bit, 0-10V & 2 10-bit, 0-20mA, 4-20mA	2 10 or 12-bit, 0-10V & 2 10-bit, 0-20mA, 4-20mA	None	2 10-bit, 0-10V & 2 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V & 2 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V & 1 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V & 2 10-bit 0-20mA, 4-20mA	3 10-bit 0-10V[2]
Temperature Measurement	None	None	None	None	None	None	1 PT100/TC	2 PT100/TC	3 PT1000/NI1000
Outputs									
Digital	4 relay	6 relay	11 relay	4 pnp	7 pnp	20 pnp	5 relay, 2 pnp	5 relay, 2 pnp	5 relay 1 pnp/npn
High-Speed Outputs/PWM	None	None	None	2 PWM	2 PWM	2 PWM	2 PWM	2 PWM	1 HSO
Analog	None	None	None	None	None	None	None	2 12-bit +/- 10V, 4-20mA	None
Program									
Ladder Code Memory (virtual)	48K			24K					
Memory Operands	256 coils, 256 registers, 64 timers								
Operator Panel									
Type	STN LCD								
Display Size	2 lines x 16 characters								
Keypad									
Keys	16 keys, 10 of which may be user-labeled								
General									
Power Supply	24VDC								
Battery	10 years typical at 77°F, battery back-up for RTC and system data, including variable data								
Environment	NEMA4X/IP65 (when panel mounted)								
Clock	Real-time clock functions (date and time)								
Programming Port	On Board Mini USB			Article No.: JZ-PRG sold separately					
Communication									
Serial	RS232/RS485 Add-on port (isolated) Article No.: JZ-RS4 sold separately								
Ethernet	Ethernet add on port Article No.: MJ20-ET1 sold separately			Not supported					

Add-on modules and accessories[2]

COM Port kit	Ethernet Communication Port New!	Program Cloner module	Keypad Slide kit
RS232/RS485 Add-on port (isolated) Article No.: JZ-RS4	Ethernet add on port **Supported by Jazz®2 series only** Article No.: MJ20-ET1	Copy applications from PLC to PLC Article No.: MJ20-MEM1	Customize the Jazz®keypad to your application Article No.: MJ20-JZ-SL1

M91 Micro-OPLC™

M91 Series Featuring:

HMI
- Up to 80 user-designed screens
- Multilingual: supports over 15 languages and 20 graphic symbols
- Scroll between pre-programmed recipes/menus
- Info Mode—troubleshoot via the HMI panel

PLC
- Shaft-encoder inputs and PWM outputs
- Direct temperature inputs
- Auto-tune PID, up to 4 loops
- Time-based control in 3 clicks
- Database
- Print utilities
- Full source upload

Communication
- SMS messaging via GSM
- Remote access utilities
- PC access via MODBUS or OPC server
- MODBUS networking
- CANbus
- RS232/RS485 built-in port

[1] In these models certain inputs are adaptable, and can function as either digital, analog, and in certain models also as thermocouple or PT100. Using adaptable inputs reduces the amount of free digital inputs. For example, M91-2-UA2 offers 12 digital inputs. Implementing 2 TC inputs requires 4 digital inputs, leaving 8 free.

[2] Certain inputs can function as high-speed counters, shaft-encoder or normal digital inputs.
[3] This specification depends on cable length.
[4] Certain outputs can function as high-speed or PWM inputs.
* Additional models (M90 models) are listed on the Unitronics web site.

Palm-size PLC + textual HMI and up to 38 onboard I/Os (expandable up to 150)

Article Number	M91-2-R1	M91-2-R2C	M91-2-R6C	M91-2-R34	M91-2-T1	M91-2-T38	M91-2-T2C	M91-2-UN2	M91-2-UA2	M91-2-RA22
	10 Digital 1 Analog Inputs 6 Relay Outputs	10 Digital 2 Analog Inputs 6 Relay Outputs	6 Digital 6 Analog Inputs 6 Relay Outputs	20 Digital 2 D/A[1] Inputs 12 Relay Outputs	12 Digital Inputs 12 Transistor Outputs	22 Digital Inputs 16 Transistor Outputs	10 Digital 2 D/A[1] Inputs 12 Transistor Outputs	10 Digital 2 D/A/PT100/TC[1] Inputs 12 Transistor Outputs	10 Digital 2 D/A/TC[1] Inputs 10 Transistor 2 Analog Outputs	8 Digital, 2 D/A 2 PT100/TC/ Digital[1] Inputs 8 Relay 2 Analog Outputs
Inputs										
Digital pnp/npn	10	10	6	22	12	22	12	12	12	12
HSC/Shaft-Encoder/ Max. Freq. Measurer[2]	3 10kHz 16-bit	3 10kHz 16-bit	1 10kHz 16-bit	3 30kHz[3] 16-bit	2 10kHz 16-bit	2 30kHz[3] 16-bit	3 10kHz 16-bit	2 10kHz 16-bit	1 30kHz[3] 16-bit	1 30kHz[3] 16-bit
Analog	1 10-bit 0-10V, 0-20mA 4-20mA	2 10-bit 0-10V, 0-20mA 4-20mA	6 10-bit 2 0-10V 0-20mA, 4-20mA and 4 0-20mA 4-20mA	2 10-bit 0-10V, 0-20mA 4-20mA	None	None	2 10-bit 0-10V, 0-20mA 4-20mA	2 14-bit 0-10V, 0-20mA 4-20mA	2 14-bit 0-10V, 0-20mA 4-20mA	2 14-bit 0-10V, 0-20mA 4-20mA and as 2 PT100/TC
Temperature Measurement	None	None	None	None	None	None	None	2 PT100/TC	2 TC	
Outputs										
Digital	6 relay	6 relay	6 relay	12 relay	12 pnp	16 pnp	12 pnp	12 pnp	10 pnp	8 relay
High-Speed Outputs/ PWM[4]	None	None	None	None	2, first 2 outputs can function as HSO, 0.5kHz maximum					None
Analog	None	None	None	None	None	None	None	None	2 12-bit: 0-10V, 4-20mA	2 12-bit: 0-10V, 4-20mA
I/O Expansion										
	I/Os may be added via expansion port									
Program										
Application Memory	36K (virtual) Ladder code capacity									
Memory Operands	256 coils, 256 registers, 64 timers									
Database	1024 integers, (indirect access)									
Operator Panel										
Type	STN LCD									
Display Size	2 lines x 16 characters									
Keypad										
Keys	15 keys									
General										
Power Supply	12/24VDC	12/24VDC	24VDC	24VDC	12/24VDC	24VDC	12/24VDC	12/24VDC	24VDC	24VDC
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC									
Environment	NEMA4X/IP65 (when panel mounted)									
Clock (RTC)	Real-time clock functions (date and time)									

I/O Expansion Modules

CE / UL

Expand your system with local or remote I/O expansion modules[1]. Vision series support both local & remote I/O modules. M90/M91[2] support local modules only.

Digital Modules

IO-DI8-TO8	IO-DI8-RO4	IO-DI8-RO8	EX90-DI8-RO8[3]	IO-DI16
24VDC	24VDC	24VDC	24VDC	24VDC
8 Digital Inputs, pnp/npn, including one High-speed Counter	8 Digital Inputs, pnp/npn, including one High-speed Counter	8 Digital Inputs, pnp/npn, including one High-speed Counter	8 Digital Inputs, pnp, including one High-speed Counter	16 Digital Inputs, pnp/npn, including one High-speed Counter
8 pnp Transistor Outputs	4 Relay Outputs	8 Relay Outputs	8 Relay Outputs	

IO-TO16	IO-RO8	IO-RO16	IO-DI8ACH
24VDC	24VDC (power supply)	24VDC (power supply)	110/220 VAC
16 pnp Transistor Outputs	8 Relay Outputs	16 Relay Outputs	8 AC Inputs

Analog, Temperature and Weight/Strain Measurements

IO-AI4-AO2	IO-PT400	IO-PT4K
24VDC (power supply)	4 PT100/NI100/NI120 Inputs	4 PT1000/NI1000 Inputs
4 Analog Inputs	Range PT100:	Range PT1000:
12 bit, 0-10V, 0-20mA, 4-20mA,	$-58^0F \div 860^0F$ $(-50^0C\ 460^0C)$	$-58^0F \div 860^0F$ $(-50^0C \div 460^0C)$
2 Analog Outputs,	Range NI100:	Range NI1000:
12 bit + sign, ± 10V, 0-20mA, 4-20mA	$-58^0F \div 449^0F\ (-50^0C\ 232^0C)$	$-58^0F \div 449^0F$
	Range $\div$NI120:	$(-50^0C \div 232^0C)$
	$-58^0F\ 341^0F\ (-50^0C\ 172^0C)$	12 bit
	12 bit	

IO-AO6X	IO-LC1[4] IO-LC3[4]	IO-ATC8	IO-AI8
24VDC (power supply)	12/24VDC (Power Supply)	8 Thermocouple/ Analog Inputs	8 Analog Inputs
6 Isolated Analog Outputs	1-3 Loadcell / Strain gauge Inputs	T/C J, K, T, B, E, N, R, S,	$0 \div 10V / 0 \div 20mA$
0-10V, 0-20mA, 4-20mA	Input voltage ranges: ± 20mV, ±80mV	0.1^0 Resolution,	14 bit
12 bit	Excitation: AC/DC	0-10V, 0-20mA, 4-20mA,	0-10V, 0-20mA, 4-20mA
	1 Digital pnp Input	12/14 bit	12/14 bit
	2 pnp Outputs		
	Not supported by all OPLCs™		

I/O Expansion Module Adapters

EX-A2X[1]
Local I/O module adapter. Galvanic isolation. Up to 8 modules may be connected to a single PLC[1]. Supports both 12/24 VDC

EX-RC1[5]
Remote I/O module adapter, via CANbus. Multiple adapters may be connected to a single PLC, with up to 8 modules to each .adapter[1]. Supports both 12/24 VDC

[1] Number of I/Os may vary according to module

[2] Except for M90-19-B1A

[3] The EX90 is housed in an open casing. Only one EX90 can be connected per PLC, as a single expansion module; Expansion adapter not required.

[4] IO-LCx models are supported by the M91 & Vision series. Not supported by the M90 series.

[5] EX-RC1 is supported by Vision series. Not supported by M91 series.

* Additional 12VDC models are listed on Unitronics web site.

XL Digital/Analog Modules

IO-D16A3-RO16	IO-D16A3-TO16	EX-D16A3-RO8	EX-D16A3-TO16
24VDC, 16 Digital Inputs pnp/npn, including two High-speed Counters, 3 Analog Inputs, 10 bit, 0-20mA, 4-20mA, 16 Relay Outputs	24VDC, 16 Digital Inputs pnp/npn, including one High-speed Counter, 3 Analog Inputs, 10 bit, 0-20mA, 4-20mA, 15 pnp + 1 pnp/npn Transistor Outputs including 1 HSO	24VDC, built-in Expansion Module Adapter, 16 Digital Inputs, pnp/npn, including two High-speed Counters, 3 Analog Inputs 10 bit, 0-20mA, 4-20mA, 8 Relay Outputs	24VDC, built-in Expansion Module Adapter, 16 Digital Inputs, pnp/npn, including one High-speed Counter, 3 Analog Inputs 10 bit, 0-20mA, 4-20mA, 15 pnp + 1 pnp/npn Transistor Outputs including 1 HSO

Snap-in I/O Modules

Plug a Snap-in module directly into the back of a Vision PLC. Compatible with all V200, V500, V1040 and V1210 Vision series models.

New! *New!*

Article No.	V200-18-E1B	V200-18-E2B	V200-18-E3XB	V200-18-E4XB	V200-18-E5B	V200-18-E6B	V200-18-E46B[1]	V200-18-E62B[1]
Digital Inputs (isolated)	16 npn/pnp (including 2 Shaft-encoder inputs)	16 npn/pnp (including 2 Shaft-encoder inputs)	18 npn/pnp (including 2 Shaft-encoder inputs)	18 npn/pnp (including 2 Shaft-encoder inputs)	18 npn/pnp (including 2 Shaft-encoder inputs)	18 npn/pnp (including 2 Shaft-encoder inputs)	18 npn/pnp (including 2 Shaft-encoder inputs)	30 npn/pnp (including 2 Shaft-encoder inputs)
Analog Inputs	3 10-bit 0-10V, 0-20mA 4-20mA	2 10-bit 0-10V, 0-20mA 4-20mA	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or	3 10-bit 0-10V, 0-20mA 4-20mA	3 10-bit 0-10V, 0-20mA 4-20mA & 2 14-bit 0-10V, 0-20mA 4-20mA and/or	9 3 10-bit, 0-10V 0-20mA, 4-20mA 6 14-bit 0-10V, 0-20mA 4-20mA	2 10-bit 0-10V, 0-20mA 4-20mA
Temperature Measurement	None	None	4 TC/PT100	4 TC/PT100	None	2 TC/PT100	None	None
Digital Outputs (isolated)	4 npn/pnp (including 2 High-speed outputs)	4 npn/pnp (including 2 High-speed outputs)	2 npn/pnp High-speed	15 pnp 2 npn/pnp (including 2 High-speed)	15 pnp 2 npn/pnp (including 2 High-speed)	2 npn/pnp High-speed	2 (including 2 High-speed)	28 pnp 2 npn/pnp High-speed
Relay Outputs (isolated)	10	10	15	None	None	15	15	None
Analog Outputs	None	2 12-bit 0-10V, 0-20mA 4-20mA	4 12-bit 0-10V, 4-20mA isolated	4 12-bit 0-10V, 4-20mA isolated	None	2 12-bit 0-10V, 4-20mA isolated	2 12-bit 0-10V, 4-20mA isolated	None

[1] V200-18-E46B, V200-18-E62B are not yet UL certified

Additional COM Module
Use these modules to enhance Vision's communication capabilities[1]

Ethernet	RS232/RS485	Isolated RS232/RS485	CANbus	Profibus[2]
V100-17-ET2 (for V130 and V350 series)	V100-17-RS4 (for V130 and V350 series)	V100-17-RS4X (for V130 and V350 series)	V100-17-CAN (for V130 and V350 series)	V100-17-PB1 (for V130 and V350 series)
V200-19-ET1 (for V200, V500, V1040 and V1210 series)	V200-19-RS4 (for V200, V500, V1040 and V1210 series)	V200-19-RS4-X (for V200, V500, V1040 and V1210 series)		

[1] V200/V500/V1040/V1210: 1 optional port for serial or Ethernet
V130/V350: 1 optional port for serial or Ethernet & 1 optional port for CANbus/Profibus
[2] Not yet UL certified

GSM-KIT-41J

KIT Including Enfora GSM1318 Q. Band Modem

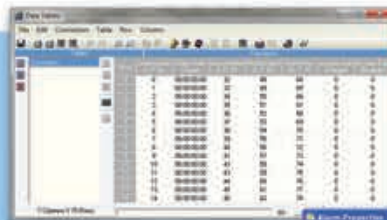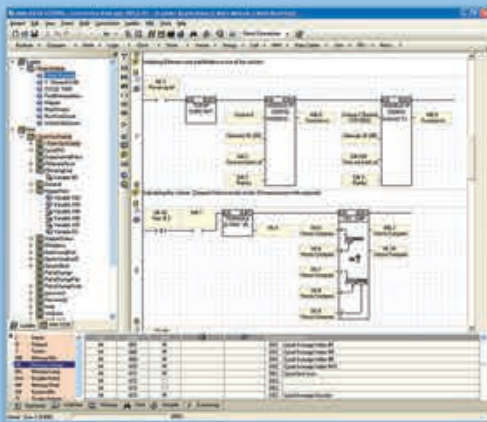# A single, Integrated Programming Environment - Free of charge!

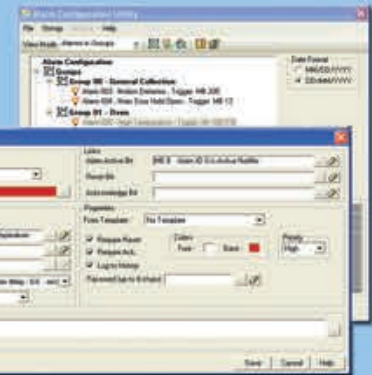## Easy Hardware Configuration

- Select base PLC
- Configure I/Os

PLC Editor

Built-in Alarms

Data Tables: Recipe Control

- Click & Drop Ladder elements
- Modular program function: create & call subroutines
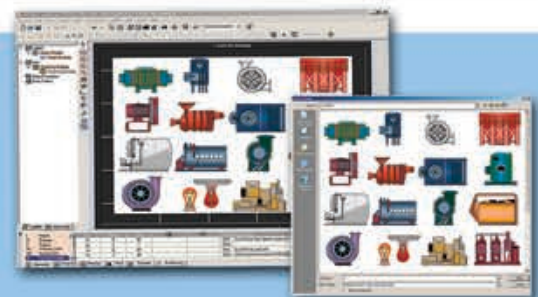- Built-in function blocks save time & simplify tasks

Intuitive HMI Design

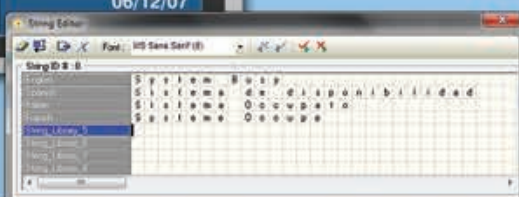### Free Image Library

- Assign functions to HMI keys
- Create and conditionally display operator messages
- Assign "Touch" properties to any screen element
- Use color images and graphs to reflect variable values and Trends

String Library: instantly switch HMI language

Software Utilities: Added Value -
Free of charge!

Remote Access & Operator:
- PC to PLC access/control via modem or network
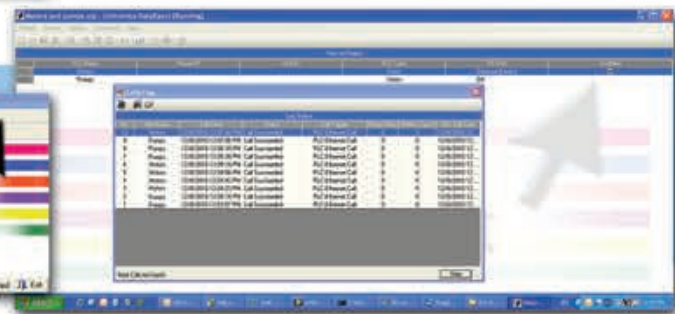- Simultaneously view multiple operator panels

SD Card Suite:
- Manage data: Trends, Alarms, Data Tables
- Remotely read/write data to SD Card

DataXport:
- Log run-time/stored Data Table data
- Export data to Excel

UniOPC/UniDDE Server: Communicate with SCADA/Windows applications
UniDownload Manager: Simultaneously download different programs to many PLCs
UniVision Licensing: Protect your Intellectual Property
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