



PLC + HMI In One Unit

Unitronics Distributors Worldwide

Argentina: AEA SACIF

Australia: Micromax Pty. Ltd.

Austria: Schmachtl GmbH

Belarus: Klinkmann Belarus

Belgium: Isotron Systems BVBA

Bosnia and Herzegovina: ACE-Automatic Control Engineering d.o.o.

Brazil: DAKOL Instrumentos e Sistemas Ltda.

Bulgaria: Semo Ltd.

Canada: Sandtron Automation Limited

Chile: E.I.Schadler y Cia Ltda.

China: Konder Co, Ltd.

China: Automate Control Engineering Ltd.

China: Beijing Ample Thrive CO, Ltd.

Colombia: COLSEIN LTDA

Croatia: Tipteh d.o.o. (Slovenia)

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

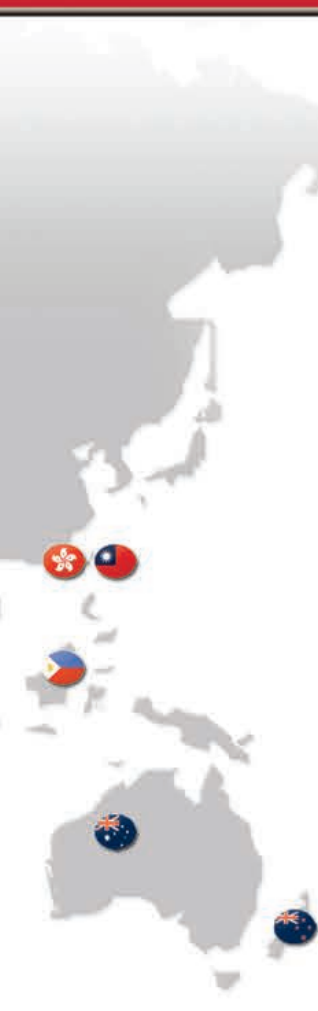
Ireland: Automated Components Ireland Ltd (ACI)

Israel: Zivan Instruments Co. Ltd.

Italy: TELESTAR s.r.l.



PLC + HMI in One Unit



Latvia: Klinkmann Lat Ltd.
Lithuania: Klinkmann Lit
Macedonia: Tipteh d.o.o Skopje
Malaysia: Yewtech SDN BHD
Malta: RAYAIR Automation Limited
Mexico: Sistemas de Control Autec, S.A. de C.V.
New Zealand: EMC Industrial Group Ltd.
Norway: Tormatic as
Peru: EPLI SAC
Philippines: Cosine Industries INC
Poland: Elmark Automatyka Sp. zo.o.
Portugal: Tecnilab Portugal, SA
Romania: Syscom 18 SRL
Russia: Klinkmann Spb & ZAO Klinkmann Spb
Serbia: ACE-Automatic Control Engineering
Singapore: SciGate Automation (s) Pte Ltd
Slovakia: S.D.A. s.r.o
Slovenia: Tipteh d.o.o.
South Africa: Vision Automation
Spain: SIDE, SA
Sweden: SensorGruppen AB
Switzerland: COMAT AG Industrielle Elektronik
Taiwan: MARK Automation Technologies Inc.
Thailand: Themtech Company Ltd.
The Netherlands: Isotron Systems BV
Turkey: Yorum Otomatik Kontrol
Ukraine: Klinkmann Ukraine LLC
United Kingdom: Multiple Local Suppliers
USA: Unitronics Inc.
Venezuela: Intrave, C.A

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.

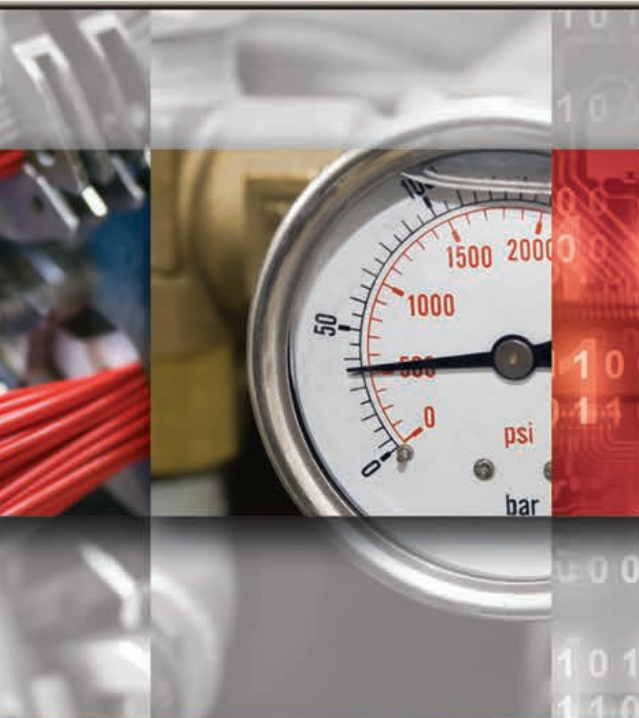
Unitronics' field-proven PLCs automate tens of thousands of installations in diverse fields: petrochemical, automotive, food processing, plastic & textile, energy & environment, water & waste water management—anywhere automated processes are required.

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

- Ethernet via TCP/IP
- 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





... An advanced PLC with an integrated color Touchscreen, plus Snap-in and Expansion I/Os ...



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 25°C, battery back-up for all memory sections and RTC	
Environment	IP65/NEMA4X (when panel mounted)	IP66/IP65/NEMA4X (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

- Ethernet via TCP/IP
- 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



... Our Color PLCs
bring your system to life ...

CE/UL



V570-57-T20B-J

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 25°C, battery back-up for all memory sections and RTC		
Environment	IP65/NEMA4X (when panel mounted)	IP66/IP65/NEMA4X (when panel mounted)	IP65/NEMA4X (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
- Ethernet via TCP/IP
- 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 with 1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus



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.

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

CE/UL

Color it beautiful!

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

Article Number	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
	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 and as 2 PT100/TC
Temperature Measurement		None	None	None	None	and as 2 PT100/TC	and as 2 PT100/TC	None	None	
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 25°C, battery back-up for all memory sections and RTC									
Environment	IP66/IP65/NEMA4X (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
- Ethernet via TCP/IP
- 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



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	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
	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 and as 2 PT100/TC	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 and as 2 PT100/TC
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 25°C, battery back-up for all memory sections and RTC									
Environment	IP66/IP65/NEMA4X (when panel mounted)									
Clock	Real-time clock functions (date and time)									

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



... Powerful communication options make the Vision OPLCs™
the natural choice for distributed-control systems ...

CE/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 25°C, back-up for all memory sections and real-time clock (RTC)				
Environment	IP65/NEMA4X (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



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.

... Palm-sized punch: power PLC plus graphic HMI ...

CE/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 25°C, battery back-up for all memory sections and RTC									
Environment	IP65/NEMA4X (when panel mounted)									
Clock	Real-time clock functions (date and time)									

Jazz[®] Micro-OPLC[™]

Jazz[®] series featuring:

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

Communication²

- 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.

⁴ Jazz 2 units supplied with the following new features: New CPU allowing a more than 30 times faster performance, 48K memory size for Ladder code and OS and built-in USB programming port.

... Replace that "smart-relay" with a real PLC/HMI ...

CE/UL

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

Article Number	JZ10-11-R10	JZ10-11-T10	JZ10-11-R16	JZ10-11-T17	JZ10-11-R31	JZ10-11-T40	JZ10-11-UN20	JZ10-11-UA24	JZ10-11-PT15
	6 Digital Inputs 4 Relay Outputs	6 Digital Inputs 4 Transistor Outputs	6 Digital, 2 D/A 2 Analog Inputs ¹ 6 Relay Outputs	6 Digital, 2 D/A 2 Analog Inputs ¹ 7 Transistor Outputs	16 Digital, 2 D/A 2 Analog Inputs ¹ 11 Relay 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
Soon	JZ20-R10 ⁴		JZ20-R16 ⁴		JZ20-R31 ⁴				
Inputs									
Digital pnp/npn	6	6	8	8	18	18	11	11	6
High-Speed Counters ³	2 5kHz, 16-bit						1 5kHz, 16-bit		
Analog	None	None	2 10-bit, 0-10V and 2 10-bit, 0-20mA, 4-20mA	2 10-bit, 0-10V and 2 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V and 2 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V and 2 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V and 1 10-bit 0-20mA, 4-20mA	2 10-bit, 0-10V and 2 10-bit 0-20mA, 4-20mA	3 10-bit 0-10V
Temperature Measurement	None	None	None	None	None	None	1 PT100/TC	2 PT100/TC	3 PT1000/NI1000
Outputs									
Digital	4 relay	4 pnp	6 relay	7 pnp	11 relay	20 pnp	5 relay, 2 pnp	5 relay, 2 pnp	5 relay 1 pnp/npn
High-Speed Outputs/ PWM	None	2 PWM	None	2 PWM	None	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	24K (virtual)								
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 are user-labeled								
General									
Power Supply	24VDC								
Battery	10 years typical at 25°C, battery back-up for RTC and system data, including variable data								
Environment	IP65/NEMA4X (when panel mounted)								
Clock	Real-time clock functions (date and time)								

Add-on modules²
and accessories

Programming kit	COM Port kit	Program Cloner module	Keypad Slide kit
Programming Add-on port (isolated) + software CD Article No.: JZ-PRG	RS232/RS485 Add-on port (isolated) Article No.: JZ-RS4	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



... Use the perfect PLC for small applications— and skip panel wiring ...

CE/UL

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
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 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 25°C, battery back-up for all memory sections and RTC									
Environment	IP65/NEMA4X (when panel mounted)									
Clock (RTC)	Real-time clock functions (date and time)									

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.

I/O Expansion Modules

CE/UL

Expand your system with local or remote I/O expansion modules¹. Vision series support both local & remote I/O modules. M90/M91² support local modules only.

Digital Modules

IO-DI8-TO8	IO-DI8-RO4	IO-DI8-RO8	EX90-DI8-RO8 ³	IO-DI16
24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 8 pnp Transistor Outputs	24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 4 Relay Outputs	24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 8 Relay Outputs	24VDC 8 Digital Inputs, pnp, including one High-speed Counter 8 Relay Outputs	24VDC 16 Digital Inputs, pnp/npn, including one High-speed Counter
IO-TO16	IO-RO8	IO-RO16	IO-DI8ACH	
24VDC 16 pnp Transistor Outputs	24VDC (power supply) 8 Relay Outputs	24VDC (power supply) 16 Relay Outputs	110/220 VAC 8 AC Inputs	

Analog, Temperature and Weight/Strain Measurements

IO-AI4-AO2	IO-PT400	IO-PT4K
24VDC (power supply) 4 Analog Inputs 12 bit, 0-10V, 0-20mA, 4-20mA, 2 Analog Outputs, 12 bit + sign, ± 10V, 0-20mA, 4-20mA	4 PT100/NI100/NI120 Inputs Range PT100: -50°C ÷ 460°C (-58°F ÷ 860°F) Range NI100: -50°C ÷ 232°C (-58°F ÷ 449°F) Range NI120: -50°C ÷ 172°C (-58°F ÷ 341°F) 12 bit	4 PT1000/NI1000 Inputs Range PT1000: -50°C ÷ 460°C (-58°F ÷ 860°F) Range NI1000: -50°C ÷ 232°C (-58°F ÷ 449°F) 12 bit
IO-AO6X	IO-LC1 ⁴	IO-LC3 ⁴
24VDC (power supply) 6 Isolated Analog Outputs 0-10V, 0-20mA, 4-20mA 12 bit	12/24VDC (Power Supply) 1-3 Loadcell / Strain gauge Inputs Input voltage ranges: ± 20mV, ± 80mV Excitation: AC/DC 1 Digital pnp Input 2 pnp Outputs Not supported by all OPLCs™	8 Thermocouple/ Analog Inputs T/C J, K, T, B, E, N, R, S, 0.1° Resolution, 0-10V, 0-20mA, 4-20mA, 12/14 bit

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.

Article No.	V200-18-E1B	V200-18-E2B	V200-18-E3XB	V200-18-E4XB	V200-18-E5B	V200-18-E6B	New! V200-18-E46B ¹	New! 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 TC/PT100	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or 4 TC/PT100	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 2 TC/PT100	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	None	None	None	None	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	17 npn/pnp (including 2 High-speed)	15 npn 2 npn/pnp (including 2 High-speed)	2 npn/pnp High-speed	2 (including 2 High-speed)	28 npn 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

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

Additional COM Module
Use these modules to enhance Vision's communication capabilities¹

Ethernet	RS232/RS485	Isolated RS232/RS485	CANbus	Profibus ²
V100-17-ET2 (for V130 and V350 series) V200-19-ET1 (for V200, V500, V1040 and V1210 series)	V100-17-RS4 (for V130 and V350 series) V200-19-RS4 (for V200, V500, V1040 and V1210 series)	V100-17-RS4X (for V130 and V350 series) V200-19-RS4-X (for V200, V500, V1040 and V1210 series)	V100-17-CAN (for V130 and V350 series)	V100-17-PB1 (for V130 and V350 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-14J	GSM-KIT-41J
Kit Including Cinterion TC65 Q. Band Modem	Kit Including Enfora GSM1318 Q. Band Modem



A single, Integrated Programming Environment - Free of charge!

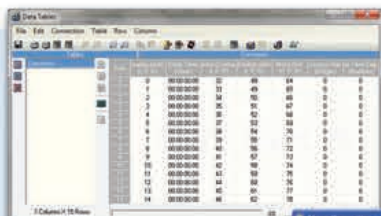
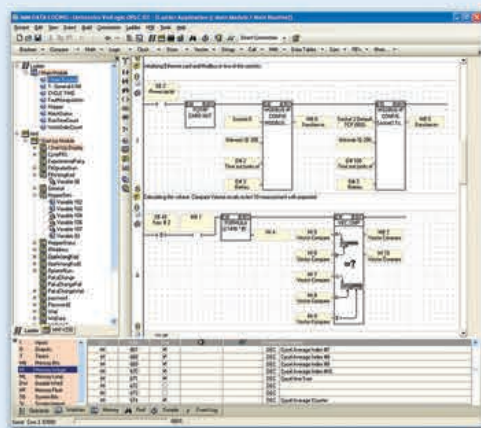


Easy Hardware Configuration

- Select base PLC
- Configure I/Os



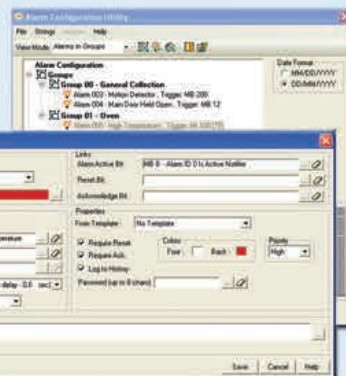
PLC Editor



Data Tables: Recipe Control

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

Built-in Alarms

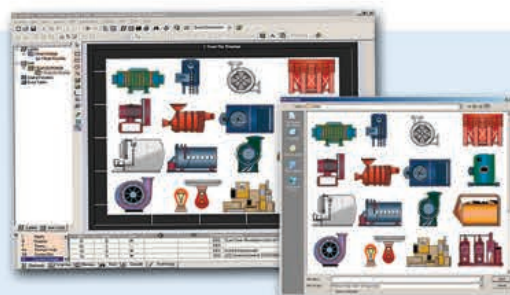


Intuitive HMI Design

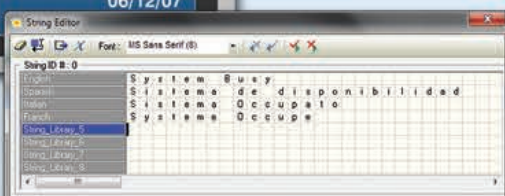


Free Image Library

- 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

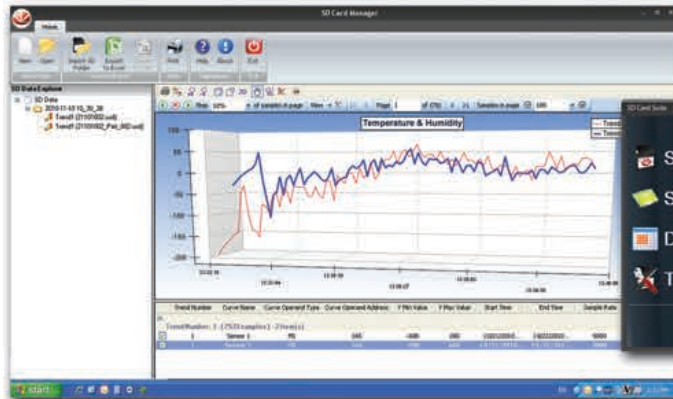


Note that graphic support, String Library, Alarms, and other software features are dependent on PLC model.

Software Utilities: Added Value - Free of charge!

Remote Access & Operator:

- PC to PLC access/control via modem or network
- Simultaneously view multiple operator panels

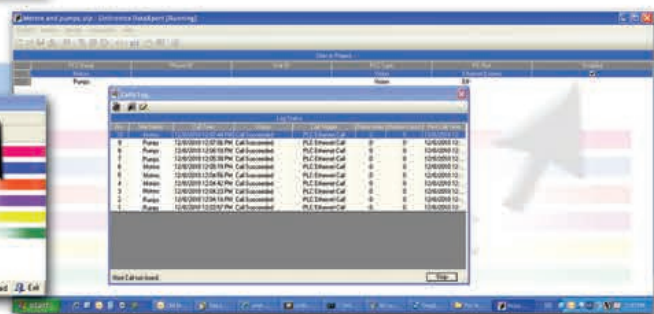


SD Card Suite:

- 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

ActiveX & .NET communication driver: Easily implement communication between PLC & PC applications



Free Technical Support

- When you call Unitronics Technical Support, you speak to an actual Support Team expert
- When you email support@unitronics.com, you correspond with Support Team experts
- When you visit <http://forum.unitronics.com>, you get answers from community experts as well as Unitronics' in-house experts

The information in this document reflects products at the date of printing. Unitronics reserves the right, subject to all applicable laws, at any time, at its sole discretion, and without notice, to discontinue or change the features, designs, materials and other specifications of its products, and to either permanently or temporarily withdraw any of the foregoing from the market. All information in this document is provided "as is" without warranty of any kind, either expressed or implied, including but not limited to any implied warranties of merchantability, fitness for a particular purpose, or non-infringement. Unitronics assumes no responsibility for errors or omissions in the information presented in this document. In no event shall Unitronics be liable for any special, incidental, indirect or consequential damages of any kind, or any damages whatsoever arising out of or in connection with the use or performance of this information. The trademarks, trademarks, logos and service marks presented in this document, including their design, are the property of Unitronics (1989) (R) Ltd. or other third parties and you are not permitted to use them without the prior written consent of Unitronics or such third party as may own them.

 **Argentina:**
AEA SACIF
Tel: 11 457 41 555, Fax: 11 457 42 400
servicioalcliente@aea.com.ar, www.aea.com.ar

 **Australia:**
Micromax Sensors & Automation Pty Ltd.
Tel: 1300 36 26 26, Fax: 1300 01 71 00
info@micromaxsa.com.au, www.micromaxsa.com.au

 **Austria:**
Schmachtl GmbH
Tel: 0732/7646-0, Fax: 0732/7-646-704
office@schmachtl.at, www.schmachtl.at

 **Belarus:**
Klinkmann Belarus
Tel: 17 2000876, Fax: 17 2272082
minsk@klinkmann.com, www.klinkmann.com

 **Belgium:**
Isotron Systems BVBA
Tel: 034 507 045, Fax: 034 507 046
info@isotron.eu, www.isotron.eu

 **Bosnia and Herzegovina:**
ACE-Automatic Control Engineering d.o.o.
Tel/Fax: 051 438 106
dpepic@ace.rs, www.ace.rs

 **Brazil:**
DAKOL Instrumentos e Sistemas Ltda.
Tel: (11) 3231 4544, Fax: (11) 3231 4544
info@dakol.com.br, www.dakol.com.br

 **Bulgaria:**
Semo Ltd.
Tel: 2 942 4754, Fax: 2 942 4762
engineering@semo.bg, www.semo.bg

 **Canada:**
Sandtron Automation Limited
Tel: 800 387 5729 or 905 319 1510, Fax: 888 825 2163
or 905 331 8300
dant@sandtron.com, www.sandtron.com

 **Chile:**
E.i.Schadler y Cia Ltda.
Tel: (2) 274 7430, Fax: (2) 204 9338
info@schadler.com, www.schadler.com

 **China:**
Beijing Ample Thrive CO, Ltd.
Tel: 010-88177186, 010-88177187
640926aihua@public.qd.sd.cn, www.a082.com

 **China:**
Automate Control Engineering Ltd.
Tel: 02 038 845 119, Fax: 02 038 823 577
Guangzhou@automate-ace.com, www.automate-ace.com

 **China:**
Konder Co. Ltd.
Tel: 08 713 628 710, Fax: 08 713 638 622
KM@konder.com, www.konder.com

 **Colombia:**
Colsein Ltda.
Tel: 1 610 84 48 / 236 76 59, Fax: 1 610 8448
info@colsein.com.co, www.colsein.com.co

 **Croatia:**
Tipteh d.o.o. (Slovenia)
Tel: 013 816 574, Fax: 013 816 577
tipteh@tipteh.hr, www.tipteh.si

 **Cyprus:**
Anaxagoras Pneumatics Ltd.
Tel: 022 442 200, Fax: 022 495 953
sales@anaxagoras.eu, www.anaxagoras.eu

 **Czech Republic:**
Schmachtl CZ, spol. s r.o.
Tel: 244 001 559, Fax: 244 910 700
unitronics@schmachtl.cz, www.schmachtl.cz

 **Denmark:**
Desim Elektronik ApS
Tel: 70 22 00 66, Fax: 70 22 22 20
desim@desim.dk, www.desim.dk

 **Estonia:**
Klinkmann Eesti AS
Tel: 6 684 500, Fax: 6 684 501
klinkmann.est@klinkmann.ee, www.klinkmann.com

 **Finland:**
Klinkmann Automation Oy
Tel: 9 540 49 40, Fax: 9 541 35 41
automation@klinkmann.fi, www.klinkmann.com

 **France:**
PL Systems
Tel: 016 092 4171, Fax: 016 928 4193
info@pl-systems.fr, www.pl-systems.fr

 **Germany:**
Spectra GmbH & Co. KG.
Tel: 0 71 21/ 143 21-0, Fax: 0 71 21/ 143 21-90
spectra@spectra.de, www.spectra.de

 **Greece:**
Automation & Power Control Ltd.
Tel: 210 531 3111, Fax: 210 598 1435
info@apc.com.gr, www.apc.com.gr

 **Hong Kong:**
Automate Control Engineering Ltd.
Tel: 02 342 72 76, Fax: 02 342 72 29
ace@automate.corp.com.hk, www.automate-ace.com

 **Honduras:**
Electrical Dealer
Tel: 558 1400, Fax: 557 9709
info@electrical-dealer.com, www.electrical-dealer.com

 **Hungary:**
Kvalix Automatika Kft.
Tel: 1 272 2242, Fax: 1 272 2244
info@kvalix.hu, www.kvalix.hu

 **India:**
Rajdeep Automation Pvt Ltd.
Tel: 020-243 937 55, Fax: 020 243 937 56
sales@rajdeep.in / info@rajdeep.in, www.rajdeep.in

 **Ireland:**
Automated Components Ireland Ltd. (ACI)
Tel: 016 282 824, Fax: 016 283 536
ddownes@auto-comp-irl.com, www.auto-comp-irl.com

 **Israel:**
Zivan Instruments Co. Ltd.
Tel: 04 872 98 22, Fax: 04 872 66 27
info@zivan.co.il, www.zivan.co.il

 **Italy:**
TELESTAR s.r.l.
Tel: 02 967 402 68, Fax: 02 967 402 73
teletstar@teletstar-automation.it,
www.teletstar-automation.it

 **Latvia:**
Klinkmann Lat Ltd.
Tel: 6738 16 17, Fax: 6738 24 51
klinkmann@klinkmann.lv, www.klinkman.com

 **Lithuania:**
UAB Klinkmann Lit
Tel: 5 216 1646, Fax: 5 216 2641
post@klinkmann.lt, www.klinkmann.com

 **Macedonia:**
Tipteh d.o.o. Skopje
Tel: 070 399 474, Fax: 023 174 197
tipteh@on.net.mk, www.tipteh.si

 **Malaysia:**
Yewtech SDN BHD
Tel: 168 761 575, Fax: 856 112 99
sales@yewtech.com, www.yewtech.com
www.yewtech.com

 **Malta:**
RAYAIR Automation Limited
Tel: 2 16 724 97, Fax: 21 8 051 81
Info@rayair-automation.com,
sales@rayair-automation.com, www.rayair-automation.com

 **Mexico:**
Sistemas de Control Autec, S.A. de C.V.
Tel: 55 527 885 19, Fax: 55 527 885 32
soporte@scautec.com, www.scautec.com

 **The Netherlands:**
Isotron Systems BV
Tel: 073 639 1639, Fax: 073 639 1699
info@isotron.nl, www.isotron.nl

 **New Zealand:**
EMC Industrial Group Ltd.
Tel: 9 415 5110, Fax: 9 415 51 15
sales@emc.co.nz, www.emc.co.nz

 **Nigeria:**
Technosuite Limited
Tel: 1 804 0237, Fax: 1 271 6985
enquiries@technosuiteltd.com, www.technosuiteltd.com

 **Norway:**
Tormatic as
Tel: 33 16 50 20, Fax: 33 16 50 45
info@tormatic.no, www.tormatic.no

 **Peru:**
EPLI SAC
Tel: 330 1595, Fax: 431 1492
info@epli.com.pe, www.epli.com.pe

 **Philippines:**
Cosine Industries INC
Tel: 2 350 74 48, Fax: 2 412 73 21
sales@cosine.net.ph, www.cosine.net.ph

 **Poland:**
Elmark Automatyka Sp. zo.o.
Tel: 22 541 84 60, Fax: 22 541 84 61
elmark@elmark.com.pl, www.elmark.com.pl

 **Portugal:**
Tecnilab Portugal, SA
Tel: 21 722 08 70, Fax: 21 726 45 50
geral@tecnilab.pt, www.tecnilab.pt

 **Romania:**
Syscom 18 SRL
Tel: 2 3 10 26 78/79, Fax: 021 316 91 76/79
valentin.andronache@syscom18.com, www.syscom.ro

 **Russia:**
ZAO Klinkmann Spb
St.Petersburg
Tel: 812 327 37 52/26, Fax: 812 327 37 53
klinkmann@Klinkmann.spb.ru, www.klinkmann.com

Moscow branch
Tel: 495 641 1616, Fax: 495 641 3434
moscow@klinkmann.spb.ru, www.klinkman.com

Yekaterinburg branch
Tel: 343 287 19 19, Fax: 343 287 19 19
yekaterinburg@klinkmann.spb.ru, www.klinkman.com

Samara branch
Tel: 846 273 95 85, Fax: 846 273 95 85
samara@klinkmann.spb.ru, www.klinkman.com

 **Serbia:**
ACE-Automatic Control Engineering
Tel: 023 523 948, Fax: 023 525 553
info@ace.rs, support@ace.rs, www.ace.rs

 **Singapore:**
SciGate Automation (s) Pte Ltd.
Tel: 656 104 88, Fax: 656 205 88
sales@scigate.com.sg, www.scigate.com.sg

 **Slovakia:**
S.D.A. s.r.o.
Tel: 48 472 34 11, Fax: 48 472 34 69
sekretariat@s-d-a.sk, www.s-d-a.sk

 **Slovenia:**
Tipteh d.o.o.
Tel: 012 005 150, Fax: 012 005 151
info@tipteh.si, www.tipteh.si

 **South Africa:**
Vision Automation
Tel: 011 826 7365, Fax: 011 826 7361
info@visionautomation.co.za, www.unitronics.co.za

 **Spain:**
SIDE, SA
Tel: 93 846 4801, Fax: 93 849 1394
elec@side.es, www.side.es

 **Sweden:**
SensorGruppen AB
Tel: 08 731 5190, Fax: 08 731 5105
info@sensorgruppen.se, www.sensorgruppen.se

 **Switzerland:**
COMAT AG Industrielle Elektronik
Tel: (0) 31 838 55 77, Fax: (0) 31 838 55 99
info@comat.ch, www.comat.ch

 **Taiwan:**
MARK Automation Tek. Inc.
Tel: 02-25700992, Fax: 02-25700816
products@marktech.com.tw, www.marktech.com.tw

 **Thailand:**
Themtech Company Ltd.
Tel: (2) 693 66 29, Fax: (2) 693-66 30
themtech@ksc.th.com, www.themtech.co.th

 **Turkey:**
Yorum Otomatik Kontrol
Tel: 212 210 94 95, Fax: 212 210 94 99
yorum@yorum-automation.com, www.yorum-automation.com

 **Ukraine:**
Klinkmann Ukraine LLC
Tel: 44 495 33 40, Fax: 44 495 33 41
klinkmann.kiev@klinkmann.kiev.ua, www.klinkmann.com

 **United Kingdom:**
Contact Unitronics Ltd.
Tel (Israel): +972 3 977 88 94, Fax: +972 3 977 88 77
export@unitronics.com, www.unitronics.com

 **USA: Unitronics Inc.**
Toll free: 866 666 6033
Tel: 617 657 6596, Fax: 617 657 6598
usa.sales@unitronics.com, www.unitronics.com

 **Venezuela:**
Intrave, CA
Tel: 0212 953 5080, Fax: 0212 951 2521
ventas@intrave.com, www.intrave.com

 **UNITRONICS®**
www.unitronics.com