UNITRONICS®

i4 Automation Ltd

Innovative Solutions for Industry

01480 395 256

PLC
+HMI
ALL IN ONE™

Powerful Software

Outstanding Support

Complete Range of PLCs

Powerful Software

Single, intuitive, feature-rich programming environment & utilities suite

Unitronics provides a powerful solution; our software is more than a match for any requirement. Hardware configuration, HMI design and communications are all programmed in an single, intuitive software environment, which includes a extensive utilities suite with DataExport, Remote Access and more. This all-in-one approach reduces the time and effort needed to program a unit. Not only is our software user-friendly, all of Unitronics software and utilities are provided at no extra cost.

Outstanding Support

Expert support without fees or tiers

"The support, both via telephone, email and the Unitronics forum, is among the best in the industry" says Jose Padro, President of Alpha Systems, Inc. Unitronics offers best-of-breed technical support to every user without added fees, tiers, or hoops to jump through. Every question we receive is answered by an experienced member of our support team. The same team of experts is available at every step of the project.

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Complete Range of PLCs

A range of product lines to match your exact requirements

With 25 years of experience in automation, Unitronics has established several PLC lines with options to meet a diverse range of requirements. Our R&D strategy is to stay close to the market; we listen to our customer's current needs and future plans and develop new solutions accordingly. This strategy enables us to offer simple tried-and-true solutions alongside cutting edge innovations.

PLC +HMI

ALL IN ONE™

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 160 distributors in over 55 countries around the globe, enabling our

customers to purchase our products with local marketing support.

Unitronics' field-proven PLCs automate hundreds 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,

Land Instruments, Mercedes, Agfa, Tyson Foods, Pirelli, Fiat, Samsonite.

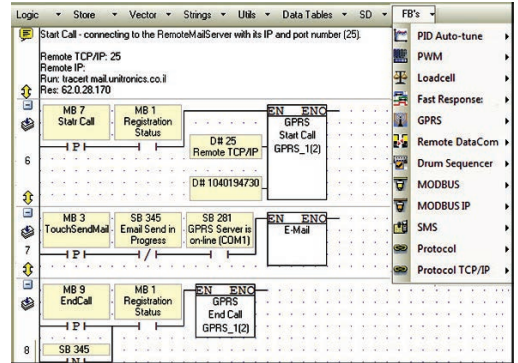## Table of Contents   **Page**

Powerful software – included with your All-in-One package

A single, intuitive environment for all of your application needs

Hardware Configuration
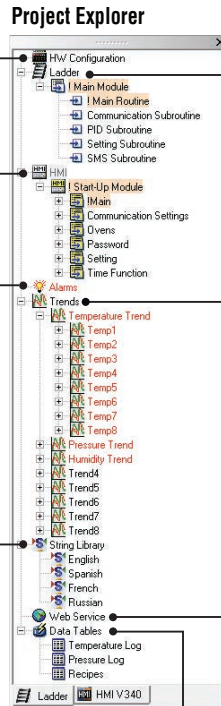Intuitive set up: controller, I/Os, and COM channels

Ladder Programming
Rapidly drag & drop elements and Function Blocks

Project Explorer

Trend Graphs
Display dynamic values in real-time

HMI Application
Create beautiful HMI displays – includes rich image library

Web Server
Display and edit application values via browser

Alarms: Built-in Screens
Effectively alert staff via Alarm screens

Languages - String Library
Instantly switch HMI language via screen touch
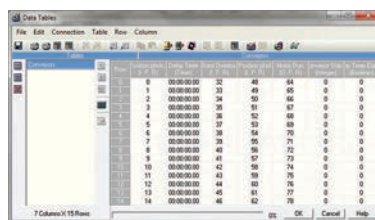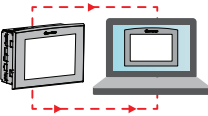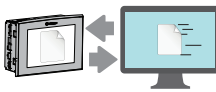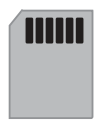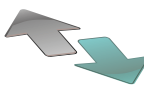
Data Tables
Create logs, import/export data, implement recipes

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Software features vary according to controller model

Smart Utilities – Remote Access,
Efficient Data Management and more

Utility Name	Function	Key Features	Targeted Users
Remote Access	View and control a PLC directly from PC, via local or remote connection	• View an HMI panel; use the PC keyboard + mouse to run the HMI application • Operand and Data Table values: view values during runtime, import and export values to/from Excel/.csv files	• Operators requiring Remote Access • System integrators: remote debugging, troubleshooting, fault-finding
Remote Operator	Simultaneously view and operate the HMI panels of multiple PLCs in multiple locations	• Easily place HMI panels side-by-side to monitor distributed systems, or applications in several locations • Run the HMI applications via PC keyboard + mouse	• Control room operators • Installation Managers
DataXport	Create Data Logs from Data Tables and operand values in PLCS	• Harvest data from multiple PLCs - on demand or according to time/date • Export the data to Excel/CSV files • Automatically email files	• Data analysts • Plant managers • Process engineers
UniDownload Designer	Create compressed VisiLogic / U90Ladder applications(.udc files) for secure installation in local or remote PLCs	• Prevent end-users from uploading and opening the application • Include an OS to be installed at download Set a Download channel, restrict end-user actions after installation and more	OEMs / System Integrators can: • Protect source code. • Enable customers to install an application without using VisiLogic or U90Ladder
Download Manager & UniDownloader	Securely install .udc applications in local or remote PLCs	• Download Manager: installs the same application in multiple PLCs • UniDownloader: installs an application in a single PLC	• OEMs / System Integrators in installations with high security requirements
SD Card Suite	Remotely access and manage SD cards and their data	• Browse a remote PLC's SD card. • Read/write data, including Data Table files View SD card contents - Trends, logs, alarm history, data tables - export to Excel	• Data analysts • Plant managers • Process engineers
UniVision Licensing	Safeguard your PLC application security	• Embeds unique licenses in the PLC, which enables application to run only on a licensed PLC • Option to activate or deactivate different sections of your application • Prevents theft of applications	• System integrators • OEMs
UniOPC Server	Exchange data between Unitronics PLCs and OPC-supported software	• Create channel to connect PLCs to SCADA systems, such as plant control rooms • Compliant with the OPC foundation standards	Control room operators
UniDDE	Exchange data with Windows based applications	Enables data exchange between Unitronics PLC's and software that supports Microsoft's Dynamic Data Exchange protocols, like Excel.	Control rooms operators
Programming tools for developers	Easily implement communication between PLC & PC applications	Using ActiveX & .NET communication drivers	Developers

VISION 1210™/1040™ Advanced PLC from the back-big & beautiful color touchscreen from the front, 12.1" /10.4". Snap-in I/Os for an All-in-One; expand up to 1000 I/Os

Features:

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
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

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
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 and more
- DF1 Slave
- SNMP agent V1
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with 2 isolated RS232/RS485, 1 CANbus, 1 USB programming port; 1 port may be added for serial/Ethernet

V1210
Flat Panel

V1040
Classic Panel

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C€/UL

	V1040	V1210
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: 32MB • 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 fixed 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	
Keys	9 programmable function keys	Virtual Keyboard
General		
Power Supply	12/24VDC	
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC	
Clock	Real-time clock functions (date and time)	
Environment	IP65/NEMA4X (when panel mounted)	IP66/IP65/NEMA4X (when panel mounted)
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics	

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VISION 570™/560™

Advanced PLC from the back-big & beautiful color 5.7" touchscreen from the front. Snap-in I/Os for an All-in-One; expand up to 1000 I/Os

Features:

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
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

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
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 and more
- DF1 Slave
- SNMP Agent V1
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with 2 isolated RS232/RS485 and 1 CANbus; In Vision570: 1 USB programming port; 1 port may be added for serial/Ethernet

V560

V570
Classic Panel

V570-J
Flat Panel

i4 Automation Ltd
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C €/UL

	V570		V560
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 for V570, 6MB for V560 • 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 fixed 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		
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		
Clock	Real-time clock functions (date and time)		
Environment	IP65/NEMA4X (when panel mounted)	IP66/IP65/NEMA4X (when panel mounted)	IP65/NEMA4X (when panel mounted)
Standard	CE, UL
Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics		

★ Not yet UL certified

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VISION 430™

Advanced PLC integrated with a 4.3" wide aspect color touchscreen. Includes an onboard I/O configuration; expand up to 512 I/Os

Features:

HMI

- 1024 user-designed screens and 250 images per application
- HMI graphs - color-code Trends
- Built-in alarm screens
- Text String Library - easy localization
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

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
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 and more
- DF1 Slave
- SNMP Agent V1
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with mini-USB programming port ; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus

V430

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> " The huge advantage of this PLC was that - with everything built-in - the communications and use of tags in the HMI was so simple and intuitive. "
>
> **Ashley Parr,**
> HPS

V430

Article Number	V430-J-B1	V430-J-RH2	V430-J-R34	V430-J-TR34	V430-J-RH6	V430-J-RA22	V430-J-TRA22	V430-J-T2	V430-J-T38	V430-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 **and** **2** PT100/TC	**2** (2 modes) Normal: 14-bit Fast: 12-bit 0-10V, 0-20mA 4-20mA **and** **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** **2** PT100/TC
Temperature Measurement		None	None	None	None			None	None	

Outputs

Digital	None	**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: 512K • Images: 12MB • Fonts: 1MB
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 fixed 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: 480x272 pixels • Size: 4.3"
Touchscreen	Resistive, Analog
Keys	5 programmable keys. Labeling options - function keys, arrows, or customized

General

Power Supply	24VDC, except for V430-J-B1, which is 12/24VDC
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC
Clock	Real-time clock functions (date and time)
Environment	IP66/IP65/NEMA4X (when panel mounted)
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics

[1] Adapt specific inputs to function as digital or analog, and in certain models as TC or PT100. This reduces the number of free digital inputs. For example, V350-35-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4, 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.

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VISION 350™

Advanced PLC integrated with a 3.5" color touchscreen. Includes an onboard I/O configuration; expand up to 512 I/Os

Features:

HMI

- 1024 user-designed screens
- 250 images per application
- HMI graphs - color-code Trends
- Built-in alarm screens
- Text String Library - easy localization
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

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
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 and more
- DF1 Slave
- SNMP Agent V1
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with 1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus

V350-J
Flat Panel

V350
Classic Panel

60°

-30°

NEW! Extended temperature range unit, operational temperature between -30ºC to 60ºC.

Available with classic or flat panel design Extended temperature options also available for Ethernet and CANBus cards.

Classic panel p/n: V350-S-TA24, Flat panel p/n: V350-JS-TA24, CANBus p/n: V100-S-CAN Ethernet p/n V100-S-ET2

CE / UL

V350

V350-S-TA24
V350-JS-TA24

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
	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 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 **and** **2** PT100/TC	**2** (2 modes) Normal: 14-bit Fast: 12-bit 0-10V, 0-20mA 4-20mA **and** **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** **2** PT100/TC
Temperature Measurement			None	None	None	None			None	None	
Outputs											
Digital		None	**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: 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 fixed 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									
Clock		Real-time clock functions (date and time)									
Environment		IP66/IP65/NEMA4X (when panel mounted)									
Standard		CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics									

[1] Adapt specific inputs to function as digital or analog, and in certain models as TC or PT100. This reduces the number of free digital inputs. For example, V350-35-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4, 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.

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VISION130™ Palm-size, powerful PLC with built-in, black & white LCD 3.5" graphic display, keypad, & onboard I/O configuration, expand up to 256 I/Os

Features:

HMI

- 1024 user-designed screens
- 400 images per application
- HMI graphs & Trends
- Built-in alarm screens
- Text String Library - easy localization
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

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
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, J1939 and more
- DF1 Slave
- SNMP Agent V1
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with 1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/Profibus and 1 CANbus

V130-J
Flat Panel

V130
Classic Panel

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16

> "The perfect solution for our need, the Vision130™ is easy to program, user-friendly and backed up with responsive tech support."

Michael Lamore,
President of Barrier1

V130

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
	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	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

	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
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 and 2 PT100/TC	2 (2 modes) Normal: 14-bit Fast: 12-bit 0-10V, 0-20mA 4-20mA and 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 2 PT100/TC
Temperature Measurement		None	None	None	None			None	None	

Outputs

	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
Digital	None	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: 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 fixed 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
Clock	Real-time clock functions (date and time)
Environment	IP66/IP65/NEMA4X (when panel mounted)
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics

[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.

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VISION120™

Full-function PLC with built-in, monochrome graphic LCD display, keypad, & onboard I/O configuration; expand up to 256 I/Os

Features:

HMI

- Up to 255 user-designed screens
- Hundreds of images per application
- HMI graphs & Trends
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

Communication

- SMS messaging
- GPRS/GSM
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, SAE J1939 NOT FOR V2XX, only Enhanced (in C models only)
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- 2 RS232/RS485 built-in ports

V120

i4 Automation Ltd
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> **The Vision120™ met and exceeded all our requirements in one compact, cost-effective package.**
>
> **David Wong,**
> President of NEXTChem

V120

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** 10kHz[3] 32-bit	**2** 10kHz 32-bit	**2** 10kHz[3] 32-bit	**3** 10kHz 32-bit	**2** 10kHz 32-bit	**1** 10kHz[3] 32-bit	**1** 10kHz[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 **or** **2** PT100/TC	**2** 14-bit 0-10V, 0-20mA 4-20mA **or** **2** TC	**2** 14-bit 0-10V, 0-20mA 4-20mA **and** **2** PT100/TC
Temperature Measurement	None	None	None	None	None	None	None			
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 fixed data									
Operator Panel										
Type	Graphic STN LCD									
Display	Resolution: 128 x 64 pixels • Size: 2.4"									
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									
Clock	Real-time clock functions (date and time)									
Environment	IP65/NEMA4X (when panel mounted)									
standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics									

[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.

VISION200™

Advanced PLCs with an integrated operator panel graphic or touch. Snap-in I/Os to create an All-in-One; expand up to 316 I/Os

Features:

HMI

- Up to 255 user-designed screens
- Hundreds of images per application
- HMI graphs & Trends
- Virtual alpha-numeric keypad (in V290 & V530)
- Memory and communication monitoring via HMI - 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
- Date & Time-based control

Communication

- TCP/IP via Ethernet
- Send e-mail function
- SMS messaging
- GPRS/GSM
- Remote Access utilities
- MODBUS protocol support
- CANbus: CANopen, UniCAN, CANlayer 2
- FB Protocol Utility: enables serial or TCP/IP communications with 3rd-party device; barcode readers, frequency converters, etc
- Ports: supplied with 1 RS232, 1 RS232/RS485 and 1 CANbus; 1 port may be added for serial/Ethernet
- V280-B25B & V290-B25B Not yet UL certified.

	V230™	V260™	V280™	V290™	V530™
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 fixed 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		
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^{0}C, back-up for all memory sections and real-time clock (RTC)				
Environment	IP65/NEMA4X (when panel mounted)				
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics				

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OEMs Testimonials

" **The Vision570™ is a fantastic and feature rich product! The Unitronics support team is like having a personal, well versed friend on hand.** "

Medical

Mar Cor Purification, Inc

Pure water and disinfection products
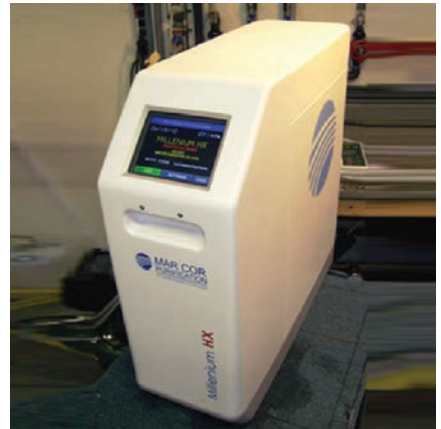
" **The main advantages of using the V350 is the small and compact design, a useful HMI, wide range I/O capability and SD memory card functions.** "

Food and Beverage

ZOOTECHNIKA Machinery Ltd

Milk Pasteurizers Use Vision350™ for Machine Control and Logging Process Parameters

" **The main advantages of using Unitronics were ease of use, very fast application development and of course excellent performance/price ratio.** "

Packaging Machinery

Kolman d.o.o.

Packaging Machinery OEM Uses Vision570™ and Vision560™ as Primary Control

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SAMBA™

Full-function PLC with built-in beautiful full-color touch-screen, & onboard I/O configuration. Great look, incredible price.

Features:

HMI

- Display: Color touch-screen
  3.5" - 320 x 240,   4.3" - 480x272,   7" - 800 x 480
- 24 user-designed screens and 40 images per application
- HMI graphs - color-code Trends
- Built-in alarm screens
- Text String Library - easy localization
- Memory and communication monitoring via HMI - No PC needed

PLC

- I/O options: Digital, Analog, including High-speed
- Auto-tune PID, 2 independent loops
- Recipe programs and data logging via Data Tables
- Date & Time-based control

Communication

- TCP/IP via Ethernet
- Send e-mail function
- SMS messaging
- GPRS/GSM
- Remote Access utilities
- MODBUS protocol supported
- CANbus: CANopen, UniCAN, SAE J1939, and more
- DF1 Slave
- Programing Port: RS232 for 3.5" model, USB for 4.3" & 7"
- 2 ports may be added: 1 Serial (RS232/RS485)/Ethernet & 1 CANbus

SAMBA 3.5"

SAMBA 4.3"

New!

SAMBA 7"

i4 Automation Ltd
Innovative Solutions for Industry
01480 395 256

"
**It really enhanced our
product's look and flexibility.**
"

Ralph Hannmann,
President of Alyan Pump Company

SAMBA

Article Number	SM35-J-R20 SM43-J-R20 New SM70-J-R20	SM35-J-T20 SM43-J-T20 New SM70-J-T20
	10 Digital Inputs **2** Digital /Analog[1] **8** Relay Outputs	**10** Digital Inputs **2** Digital /Analog **8** Transistor Outputs
Inputs		
Digital	**12**	**12**
HSC/Shaft-Encoder/Max. Freq. Measurer[2,3]	**1** 32-bit 30 kHz	**3** 32-bit 30 kHz
Analog	2: 10-bit, 0-10v 0-20mA, 4-20mA	2: 10-bit, 0-10v 0-20mA, 4-20mA
Outputs		
Digital	**8** relay	**8** pnp
High-Speed Outputs/PWM	None	Outputs 0 to 6 can be used as PWM outputs 0.5 kHz
Analog	None	
I/O Expansion		
	Remote I/Os via CANbus	
Program		
Application Memory SM35 SM43 New SM70	Application Logic: 112kb • Images: **1 MB** • Fonts: 512 k Application Logic: 112kb • Images: **2 MB** • Fonts: 512 k Application Logic: 112kb • Images: **5 MB** • Fonts: 512 k	
Scan Time	15µS per 1K of typical application	
Memory Operands	512 coils, 256 registers, 32 long integers (32-bit), 32 double words (32-bit unsigned), 24 floats, 32 timers (32-bit), 16 counters. Additional non-retainable operands: 64 X-bits, 32 X-integers, 16 X-long integers, 16 X-double words	
Data Tables	32K dynamic RAM data (recipe parameters, datalogs, etc.), up to 16K fixed data	
SD Card (Micro)	None	
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 SM35 SM43 New SM70	Resolution: 320 x 240 pixels • Size: 3.5" (QVGA) Resolution: 480 x 272 pixels • Size: 4.3" Resolution: 800 x 480 pixels • Size: 7"	
Touchscreen	Resistive, Analog	
Keys	Displays virtual keyboard when the application requires data entry	
General		
Power Supply	24VDC	
Battery	7 years typical at 25°C, battery back-up for RTC and system data, including variable data	
Clock	Real-time clock functions (date and time)	
Environment	NEMA4X/IP66/IP65 (when panel mounted)	
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics	

[1] When selecting NPN for the digital inputs, the 2 Analog inputs cannot be used.

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

[3] This specification depends on cable length

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JAZZ®

An All-in-One that is as affordable as a "smart relay" - full-function PLC combined with a textual HMI and keyboard, with up to 40 onboard I/Os

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 projects

Features:

HMI
- Up to 60 user-designed screens
- Multilingual: supports over 15 languages and 20 graphic symbols

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

Communication
- SMS messaging via GSM
- Remote Access utilities
- PC access via MODBUS or OPC server
- Supports MODBUS protocol

Jazz®
Flat Panel

Jazz®-J
Classic Panel

i4 Automation Ltd
Innovative Solutions for Industry
01480 395 256

> "The Unitronics PLC provided the perfect solution for our need for control. Whether it was safety, mechanical or functionality, the Jazz had it all."
>
> **Peter Spano,**
> President of GTS

JZ20 | JZ10

Article Number		JZ20-R10	JZ20-R16	JZ20-R31	JZ20-T10	JZ20-T18	JZ20-T40	JZ10-11-UN20	JZ10-11-UA24	JZ10-11-PT15
	Classic Panel	JZ20-R10	JZ20-R16	JZ20-R31	JZ20-T10	JZ20-T18	JZ20-T40	JZ10-11-UN20	JZ10-11-UA24	JZ10-11-PT15
	Flat Panel	JZ20-J-R10	JZ20-J-R16	JZ20-J-R31	JZ20-J-T10	JZ20-J-T18	JZ20-J-T40	JZ10-J-UN20	JZ10-J-UA24	JZ10-J-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] **8** 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

	JZ20-R10	JZ20-R16	JZ20-R31	JZ20-T10	JZ20-T18	JZ20-T40	JZ10-UN20	JZ10-UA24	JZ10-PT15
Digital pnp/npn	6	8	18	6	8	18	11	11	6
High-Speed Counters[4]	**2** 10kHZ, 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

	JZ20-R10	JZ20-R16	JZ20-R31	JZ20-T10	JZ20-T18	JZ20-T40	JZ10-UN20	JZ10-UA24	JZ10-PT15
Digital	**4** relay	**6** relay	**11** relay	**4** pnp	**8** 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	48K	24K
Memory Operands	256 coils, 256 registers, 64 timers	

Operator Panel

Type	STN LCD
Display Size	2 lines x 16 characters
Keys	16 keys, 10 of which may be user-labeled

General

Power Supply	24VDC
Battery	10 years typical at 25°C, battery back-up for RTC and system data, including variable data
Clock	Real-time clock functions (date and time)
Environment	NEMA4X/IP65 (when panel mounted)
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics
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

[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.

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

* Not yet UL certified

M91™

An affordable All-in-One: a smart PLC with a textual HMI and keyboard, plus an onboard I/O configuration; expand up to 150 I/Os

Features:

HMI

• Up to 80 user-designed screens
• Multilingual: supports over 15 languages and 20 graphic symbols
• Scroll between pre-programmed recipes/menus
• Memory and communication monitoring via HMI - No PC needed

PLC

• Shaft-encoder inputs and PWM outputs
• Direct temperature inputs
• Auto-tune PID, up to 4 loops
• Date & Time-based control
• Database
• Print utilities
• Full source upload

Communication

• SMS messaging via GSM
• Remote access utilities
• PC access via MODBUS or OPC server
• Supports MODBUS protocol
• CANBus (in C models only)
• User-defined ASCII strings, enable communication with external devices
• RS232/RS485 built-in port

M91

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M91

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 **or** **2** PT100/TC	**2** 14-bit 0-10V, 0-20mA 4-20mA **or** **2** TC	**2** 14-bit 0-10V, 0-20mA 4-20mA **and** **2** PT100/TC
Temperature Measurement	None	None	None	None	None	None	None			
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									
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									
Clock (RTC)	Real-time clock functions (date and time)									
Environment	IP65/NEMA4X (when panel mounted)									
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics									

[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 inputs, or normal digital inputs.

[3] This specification depends on cable length.

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

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★ 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 modules.
Vision series support both local & remote I/O modules. M91 supports 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

*Also available as 12VDC – contact us for part number

High-speed Remote I/O Module

EXF-RC15[2,5]
24VCD **9** Digital Inputs pnp/npn, including **3** high-speed counter, **4** npn Transistor Outputs, may function as high-speed PWM/PTO, **2** relay outputs

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: $-50^0C \div 460^0C$ ($-58^0F \div 860^0F$) Range NI100: $-50^0C \div 232^0C$ ($-58^0F \div 449^0F$) Range NI120: $-50^0C \div 172^0C$ ($-58^0F \div 341^0F$) 12-bit	**4** PT1000/NI1000 Inputs Range PT1000: $-50^0C \div 460^0C$ ($-58^0F \div 860^0F$) Range NI1000: $-50^0C \div 232^0C$ ($-58^0F \div 449^0F$) 12-bit

IO-AO6X	IO-LC1[4] IO-LC3[4]	IO-ATC8	IO-AI8
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 PLCs	**8** Thermocouple/ Analog Inputs T/C J, K, T, B, E, N, R, S, 0.1^0 Resolution, 0-10V, 0-20mA, 4-20mA, 12/14-bit	**8** Analog Inputs $0 \div 10V$ / $0 \div 20mA$ 14-bit 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[1,5]
Remote I/O module adapter, via CANbus. Connect multiple adapters to a single PLC; connect up to **8** modules per adapter. Supports both 12/24 VDC.

[1] Number of supported I/Os & I/O modules varies according to PLC model.

[2] The EXF-RC15 functions as a CANbus node in a Vision UniCAN network. The EXF-RC15 is stand-alone and does not support I/O Expansion Modules.

[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] Supported by Vision series. Not supported by M91 series.

Functions as both I/O module and adapter*

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

*Functions as local adapter. Can support up to **7** I/O modules

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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	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 TC/PT100	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or 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 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
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 Modules
Enhance Vision's communication capabilities[1]

Vision Model	Ethernet	RS232/RS485	Isolated RS232/RS485	CANbus	Profibus[2]
SAMBA	V100-17-ET2	V100-17-RS4	V100-17-RS4X	V100-17-CAN	None
V130, V350	V100-17-ET2 V100-S-ET2[3]	V100-17-RS4	V100-17-RS4X	V100-17-CAN V100-S-CAN[3]	V100-17-PB1
V200, V500, V1040, V1210	V200-19-ET2	V200-19-RS4	V200-19-RS4-X	None	None

GSM-KIT-41J
Kit Including Enfora GSM1318 Q. Band Modem

DIN-rail Power Supplies

UAP-24V24W	UAP-24V60W	UAP-24V96W
24W 24V 1A	60W 24V 2.5A	96W 24V 4A

[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
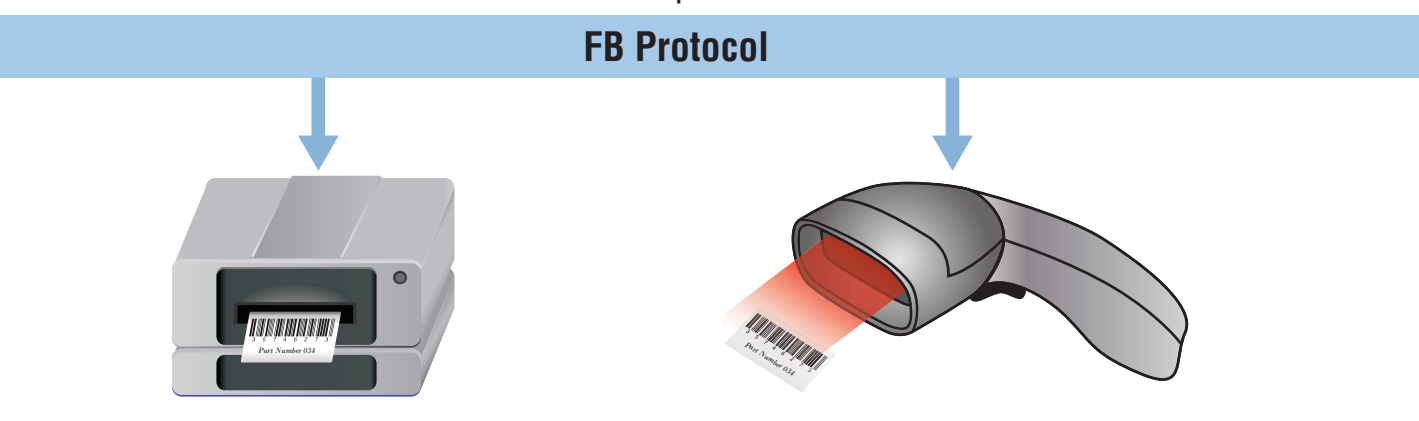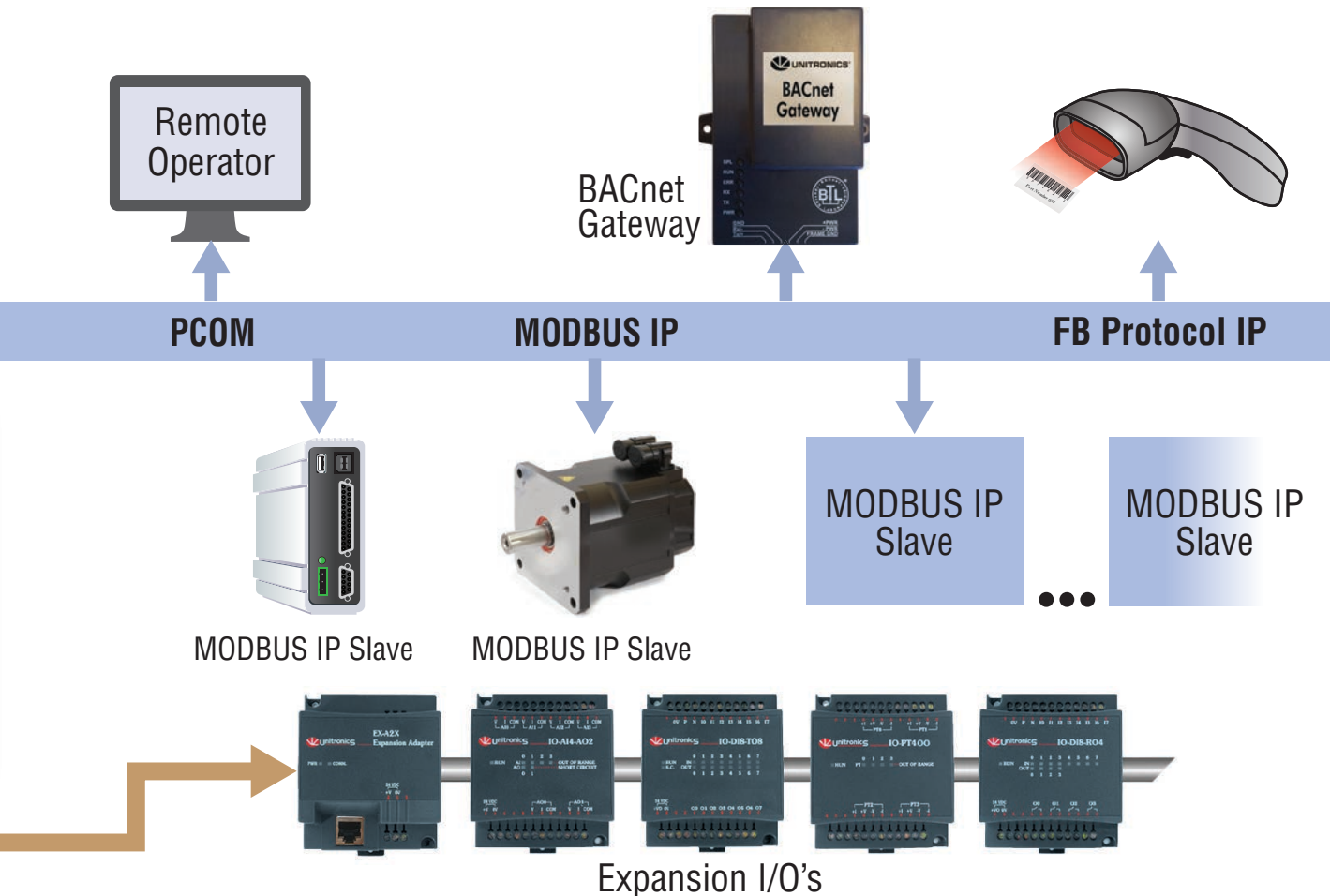
[2] Not yet UL certified

[3] Extended temperature cards, operational temperature : -30°C to 60°C

Configure your Network

Collect & communicate data. Display, access, and remotely control your application.

SNMP v1

SCADA

Web Server

Ethernet

SNMP

OPC

HTTP

Ethernet

RS232

CANbus

RS485

Exp I/O

SMS

GSM/GPRS Modem

Water Treatment

RS485

MODBUS RTU

OR

82067

WATER FLOW METER

82067

MODBUS RTU Slave

MODBUS RTU Slave

MODBUS RTU Slave

MODBUS RTU Slave

CANbus

CANopen

SAE J1939

/

UniCAN

CANopen Slave

J1939 Device

Remote High Speed I/O
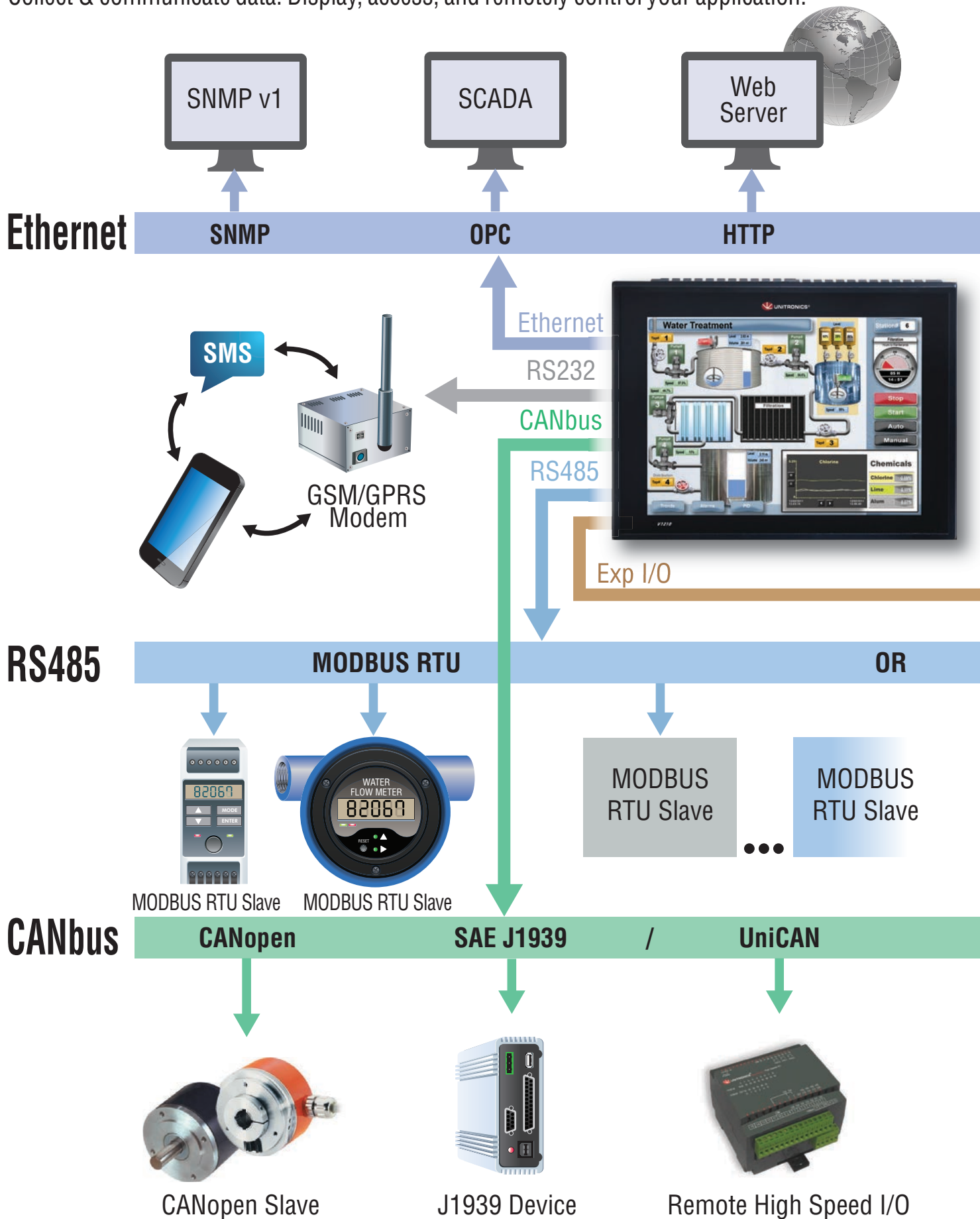
This image is for illustrative purposes only. Features and capabilities vary according to model.

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Remote
Operator

BACnet
Gateway

PCOM   **MODBUS IP**   **FB Protocol IP**

MODBUS IP Slave   MODBUS IP Slave

MODBUS IP
Slave

MODBUS IP
Slave

• • •

Expansion I/O's

FB Protocol

UniCAN

Up to 8 module

PB
Master

Remote I/O   ProfiBus   PB Slave

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