UNITRONICS®

PLC +HMI

ALL IN ONE™

Powerful Software

Outstanding Support

Complete Range of PLCs

UNISTREAM®

VISION®

SAMBA®

JAZZ® & M91™

Modular All-in-One

All-in-One, simple configuration–saves on cabinet space and wiring costs

The UniStream® platform comprises of a versatile and powerful CPU, a variety of elegant HMI touch-panels, I/O modules and communication modules that are very easy to install and require minimal wiring.

Integrate third-party devices via EtherNet/IP™, CANbus or RS232/485 using MODBUS or CANopen.
Use the UniLogic® Message Composer to adapt UniStream to any protocol.

- Audio Out
- microSD
- 2xUSB (Host)
- USB (Programming)
- 2x Ethernet (for daisy-chaining)

Supports
EtherNet/IP™

I/O or Communication modules: Simply snap to the back of the HMI panel–no need to move any of the neighboring units.
Use “Wide” I/O modules for a denser I/O arrangement (their model numbers include a “W”).

CANbus

RS485

CPU

Slim I/O

Wide I/O

COM module

Remote Access

Access your PLC from anywhere at anytime

Connect directly via Ethernet or USB, or use VNC to connect mobile phone, tablet, or PC.
Use your browser to surf to UniStream’s built-in webserver.

UniLogic® Top Features

UniLogic® Studio provides a unified environment for hardware and communication configuration, Ladder, and HMI applications.

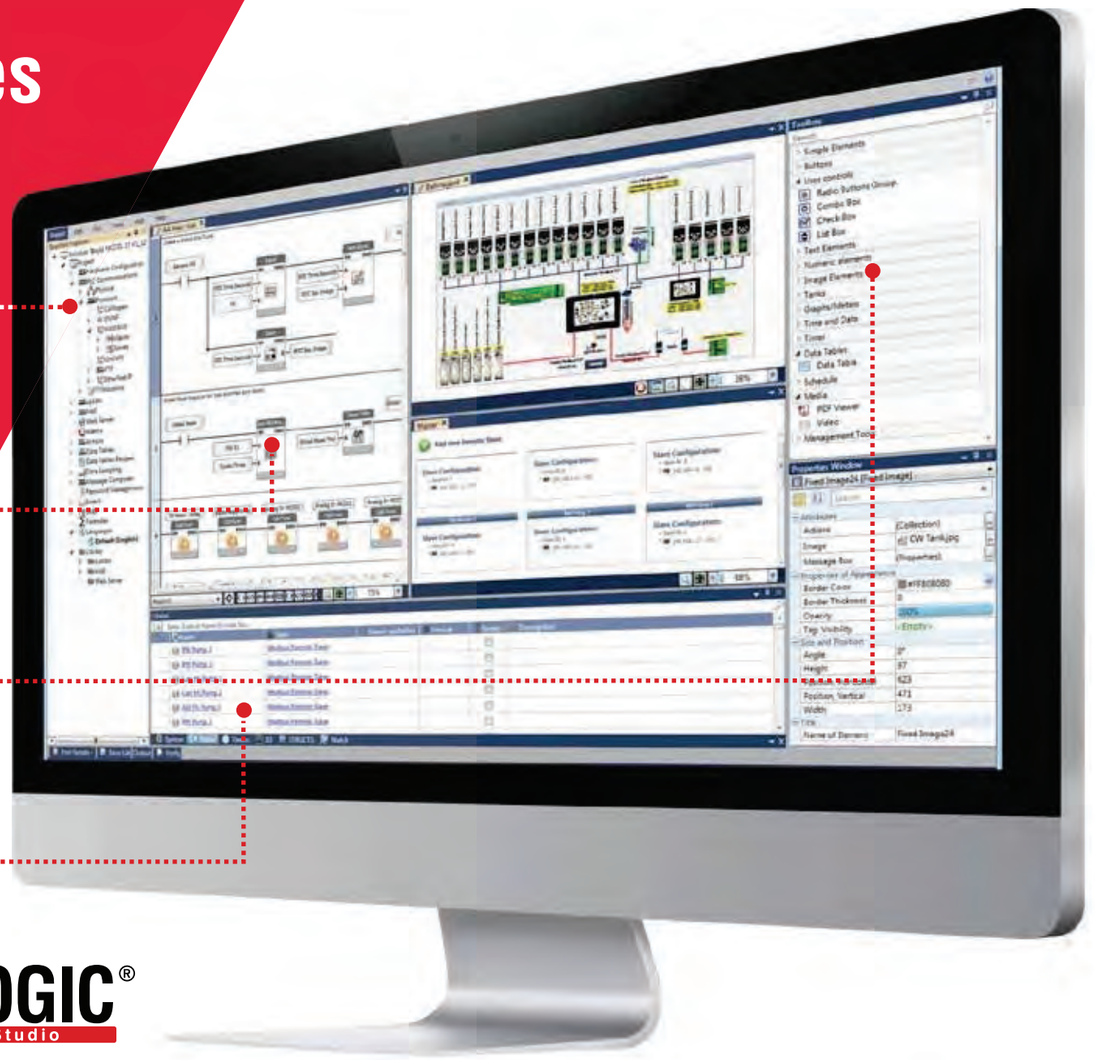
All-in-One …
Ladder, HMI & Web Server, Hardware & Communications, Data Trends & Recipes, Alarms and more

Build-it-Once …
Reuse Library: Functions, HMI & Webpages

Context-sensitive …
Toolbox for Ladder, HMI & Web Elements

Power from C …
Structs & C Functions

New!
- SQL
- Custom Controls
- HMI to Web Page



UNILOGIC® Studio

All-in-One Ergonomic Design - Everything is Visible

The Solution Explorer shows it all: Hardware Configuration, Ladder functions, HMI and Webserver screens, Actions, Data Tables, Data Samplers, Communication protocols, SMS, and emails. Context-sensitive toolboxes display only relevant options and functions.

Structs - Tag Database on Steroids

You create Structs - groups of data tags of different types organized into a single, logical unit - and reuse them across programs, especially with UDFBs (User Defined Function Blocks). UniLogic's built-in Structs enable you to configure and control hardware and complex functions such as Communications and PID.

Speed Ladder Programming - plus "C" Power

Build your Ladder: drag & drop elements that snap into place, error-free. Use the built-in C Function editor to write C functions. UniLogic means you 'write-it-once': create code to use, reuse, and export across projects.
Create UDFBs (User Defined Function Blocks) - self-contained functions for tasks such as oven control.

Power Data Tools - Data Sampler, Data Tables, Recipes, *SQL

Data Samplers record dynamic application data, such as output values, at fixed intervals into files and display it as Trend graphs on the HMI.
Data Tables organize and manipulate data via Ladder, create data logs, implement Recipes, import/export values from/to Excel, allow users to enter/edit data into Data Tables via HMI panel, and more.
NEW SQL Connector: Access SQL databases, run Queries, connect Data Tables to SQL.

Web Server: Web pages – No HMTL required

Design elegant web pages via a drag & drop interface, identical to the HMI editor.
A rich graphic library is at your disposal.
The Web toolbox offers user controls and widgets, enabling the end user to view and enter application data via any web browser.

Design Beautiful HMI Displays - Stream Video, Audio, PDF

UniLogic's extensive free graphics library and HMI widgets enable you to be a graphic artist. The simple HMI editor supports layers, image transparency, overlap, and rotation. The Toolbox offers drag & drop widgets: Video and Audio players, Data Tables, complex Trend graphs and gauges for the display of run - time values, and more.
New Custom Controls: design controls, store in Library - reuse anywhere!

Build-it-Once, then Reuse - the Ultimate Time Saver

Add your UDFBs, HMI screens, Custom Controls and Web Pages to the Library. Then, drag & drop them where you need them - UniLogic takes care of the tags. You can import your Library into any project, and share it with others.

Languages - from Italian to Chinese at the touch of a button

UniLogic supports any language that you can type - including Asian languages such as Chinese, Japanese, and Korean. You simply enter translated text into the Language Table Translation. Instantly switch HMI language via user actions or program events.

Built-in Alarms - Easily Boost Application Safety

Compliant with ISA 18.2 standard guidelines for Alarm Management systems in the process industries. Intuitive features allow operators to detect Alarms, analyze them, and take action. Export your Alarm Log via FTP, send it via email, or copy it directly from the controller via a DOK. Alarms feature full multi-language support.

Communications - Configuration not Programming

Incredibly fast, easy to configure and implement, UniStream data communications function independently of Ladder. A single PLC can contain multiple slave definitions - and multiple master definitions. Communicate with any device via plug-and-play for protocols such as MODBUS, CANopen, SNMP, and EtherNet/IP. Use Message Composer for data communications with devices such as frequency converters and bar-code readers via any Ethernet, CANbus or serial 3rd -party protocol. UniStream also supports CAN Layer 2, FTP Client/Server, SMS, email, and communications via GSM/GPRS modem.
Remotely Access your UniStream via VNC from PC, cellphone, or tablet. Plus, the built-in Web Server enables secure remote monitoring and data editing.

Completely modular in architecture, UniStream® enables you to create a compact control device that comprises the optimal configuration for your specific application.

	CPU + 7" HMI Panel	CPU + 10.4" HMI Panel	CPU + 15.6" HMI Panel
Part Number	USC-P-B10 and USP-070-B08/ USP-070-B10	USC-P-B10 and USP-104-B10/USP-104-M10	USC-P-B10 and USP-156-B10
Number of I/Os per CPU (On board, local and remote)	Up to 2,048		
On board Uni-I/O™ or Uni-COM Modules (All-in-one configuration)	Snap up to 3 slim or 2 wide modules [1]	Snap up to 5 slim or 3 wide modules [1]	
Local Uni-I/O™ Expansion	Use Local Expansion Adapters to add up to 80 slim modules or 50 wide modules [1]		
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os [4]		
Bit Operation	0.13 µs		
Ladder Memory	1 MB		
External Memory	microSD and USB Flash drive		
Video	Show MPEG-4 videos on the HMI screen		
Audio	Play MP3 audio files via internal speaker or external speakers via audio-out jack		
Power Supply	12/24VDC		
Backup Battery	CR2032 Back-up RTC values, system data and retained tags		
Communication			
Ports	2 Ethernet • 1 RS485 • 1 CANbus 2 USB host ports • 1 USB device port for programming		
Protocols	MODBUS, EtherNet/IP™, CANopen, SNMP, FTP, BACnet[2], RTSP, VNC, UniCAN, GSM (SMS, GPRS), KNX, Message Composer for 3rd party protocols		
HMI Panel			
Type	TFT, LCD, HMI Panel		
Size	7"	10.4"	15.6"
Touch screen	Resistive Analog	USP-104-B10:Resistive Analog USP-104-M10: Capacitive multi-touch, 5-fingers	Resistive Analog
Resolution	800x480 (WVGA)	800x600 (SVGA)	1366x768
Viewing Area Height x Width (mm)	USP-070-B08: 152.4 x 91.44 USP-070-B10: 154.08 x 85.92	211.2 x 158.4	344.23 x 193.53
Colors	65,536 (16bit)		16M (24bit)
Display Backlight Illumination	White LED		
Environment			
Protection	IP66, IP65 and NEMA4X when panel-mounted [3]		
Operating Temperature	-20°C to 55°C (-4°F to 131°F)		0°C to 50°C (32°F to 122°F)

Local Expansion Adapters

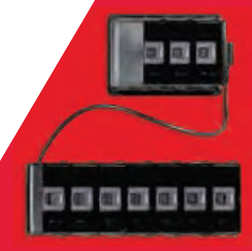
UAG-XK125	Short Range Kit, 125 cm
UAG-XKP125	Short Range + embedded Power Supply Kit, 125 cm
UAG-XK300	Short Range Kit, 300 cm
UAG-XKP300	Short Range Kit + embedded Power Supply, 300 cm
UAG-XKPLXXXX	Long Range + embedded Power Supply, lengths: 600, 1200, 1500, 2000, 3000cm

Uni-COM™ Communication Modules

UAC-01RS2	1x RS232
UAC-02RS2	2x RS232
UAC-02RSC	1x RS232 port and 1x RS485 port

(1) Uni-I/O™ module series are "Slim" & "Wide". "Wide" I/O modules offer a denser I/O arrangement; their model numbers comprise a "W". In width, one "Wide" module = 1.5 "slim" module.
(2) Using a gateway module: GW-BAC1
(3) UniStream complies with IP66 and NEMA4X only with the audio seal installed, please refer to the installation guide of the HMI panel for information.
(4) EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m. Refer to website for more information.

Expandability On-Board, Local, & Remote I/Os



Select the perfect combination of Uni-I/O™ modules and configure them to fit your application. Snap up to 5 modules on a 10.4" or 15.6" HMI panel, up to 3 on a 7" panel. Expand further either locally or remotely.

		Inputs				Outputs			
	Articles Number	Digital (Isolated)	HSC/Shaft-encoder [4]	Analog	Temperature Measurement	Transistor [5] (Isolated)	PWM/ HSO [5]	Relay	Analog
Digital	UID-1600	**16** Sink/Source	—	—	—	—	—	—	—
	UID-0808T	**8** Sink/Source	—	—	—	**8** Source(pnp)	—	—	—
	UID-W1616T [3]	**16** Sink/Source	—	—	—	**16** Source(pnp)	—	—	—
	UID-0808THS [1]	**8** Sink/Source	**2** 250kHz 32-bit	—	—	**8** Source(pnp)	**2** [2] 250kHz **2** 3kHz	—	—
	UID-0016T	—	—	—	—	**16** Source(pnp)	—	—	—
	UID-0808R	**8** Sink/Source	—	—	—	—	—	**8**	—
	UID-W1616R [3]	**16** Sink/Source	—	—	—	—	—	**16**	—
	UID-0016R	—	—	—	—	—	—	**16**	—
Analog and Temperature	UIA-0006	—	—	—	—	—	—	—	**6** 0-10V 14-bit ±10V 13-bit+sign 0-20mA, 4-20mA 13-bit
	UIA-0402N	—	—	**4** 0-10V, 0-20mA, 4-20mA 13-bit	—	—	—	—	**2** 0-10V 14-bit ±10V 13-bit+sign 0-20mA, 4-20mA 13-bit
	UIA-0800N	—	—	**8** 0-10V, 0-20mA, 4-20mA 13-bit	—	—	—	—	—
	UIS-04PTN	—	—	—	**4** PT100/NI100/NI120	—	—	—	—
	UIS-04PTKN	—	—	—	**4** PT1000/NI1000/NI1200	—	—	—	—
	UIS-08TC	—	—	—	**8** Thermocouple	—	—	—	—
Digital/Analog	UIS-WCB1 [1,3]	**10** Sink/Source	**2** 10kHz 32bit	**2** (Isolated) 0-10V, 0-20mA, 4-20mA 14-bit	**2** (Isolated) Thermocouple, PT100/NI100/NI120	**2** [6] Sink (npn)	**2** 250kHz	**8**	**2** 0-10V 14-bit ±10V 13-bit+sign 0-20mA, 4-20mA 13-bit
	UIS-WCB2 [1,3]	**10** Sink/Source	**2** 10kHz 32bit	**2** (Isolated) 0-10V, 0-20mA, 4-20mA 14-bit	**2** (Isolated) Thermocouple, PT100/NI100/NI120	**8** Source (pnp) **2** [6] Sink(npn)	**2** 250kHz (Sink outputs only)	—	**2** 0-10V 14-bit ±10V 13-bit+sign 0-20mA,4-20mA 13-bit

1. This module utilizes two high speed blocks that can each be assigned either to the inputs or to the outputs.
2. 2 outputs are high-speed, up to 250KHz: function as normal or high-speed PWM (same freq. and different duty-cycles). 2 outputs are normal speed: function as normal-speed PWM outputs (same freq. and same duty cycle).
3. Width: 1 'wide' I/O module = 1.5 'slim' I/O modules
4. Note that the high-speed inputs are included in the total number of digital inputs.
5. Note that the high-speed outputs are included in the total number of digital outputs.
6. Not isolated

DIN Rail Power Supplies

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

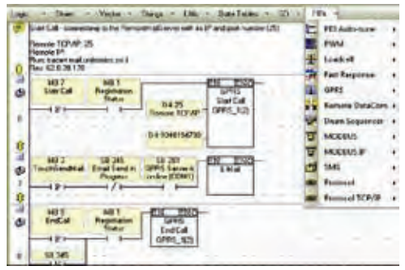
Modems

GSM-KIT-17J-3G	Cinterion GPRS modem, EHS6T, 3G

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

HMI Application
Create beautiful HMI displays – includes rich image library

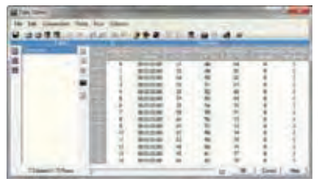
Project Explorer

Trend Graphs
Display dynamic values in real-time

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

Web Server
Display and edit application values via browser

Languages - String Library
Instantly switch HMI language via screen touch



Data Tables
Create logs, import/export data, implement recipes

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 & high resolution color touchscreen from the front, 12.1"/10.4". Snap-in I/Os for an All-in-One, expands up to 1000 I/Os

Features:

HMI

- Up to 1024 user-designed screens
- 1500 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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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

> "I've not yet encountered a job that a Unitronics PLC was unable to cover."
>
> **Timothy Moulder,**
> Engineer at Black & Decker

CE/UL

Snap-in I/O

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

	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. Expand up to 1000 I/Os (See I/O Expansion Modules- page 28).	
Program		
Application Memory	Application Logic: 2MB • Images: 40MB • 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	

VISION 700™

Advanced PLC from the back – big, high-resolution color 7" touchscreen from the front. Snap-in I/Os create an All-in-One, expands up to 1000 I/Os.

Vision700™ built-in Ethernet port supports 8 sockets – seamless, simultaneous communication with 8 different devices.

Features:

HMI

- Up to 1024 user-designed screens
- 1500 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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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, 1 RS232/RS485 and 1 Ethernet port. 1 ports may be added: 1 Serial/Ethernet/Profibus or 1 CANbus

V700

> "Reliability, ease of use, connectivity and competitive prices are Unitronics' main strengths."
>
> **Mr. Andrea Della Bosca,**
> EV srl

Article Number	V700 V700-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 (See I/O Expansion Modules- page 28)
Program	
Application Memory	Application Logic: 2MB • Images: 40MB • 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	800 x 480 pixels, 7"
Touchscreen	Resistive, Analog
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	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

VISION 570™/560™

Advanced PLC from the back–big & high resolution color 5.7" touchscreen from the front. Snap-in I/Os for an All-in-One, expands up to 1000 I/Os

Features:

HMI

- Up to 1024 user-designed screens
- 1000 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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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

V570-J
Flat Panel

V570
Classic Panel

> "For a first time user, I had a great experience. I look forward to incorporating this brand of product on future jobs."
>
> **Jeremy Charles Keene,**
> Controls Manager at General Broach Company

V560

CE/UL

Article Number	V570		V560
	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. Expand up to 1000 I/Os (See I/O Expansion Modules- page 28)		
Program			
Application Memory	Application Logic: 2MB • Images: 16MB • 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

VISION430™

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 1000 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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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 and 1 RS232/RS485 ; 2 ports may be added: 1 Serial/Ethernet/ Profibus and 1 CANbus

V430

> "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

Vision430™ models - Onboard I/Os

		Inputs [1]				Outputs				Operating Voltage
Article	**Summary**	**Digital [2]**	**HSC/Shaft-encoder [2]**	**Analog**	**Temperature Measurement**	**Transistor [3]**	**PWM/HSO [3]**	**Relay**	**Analog**	
V430-J-B1	No onboard I/Os	—	—	—	—	—	—	—	—	12/24VDC
V430-J-RH2	**10** Digital, **2** D/A Inputs [1] **6** Relay Outputs	**12**	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	24VDC
V430-J-R34	**20** Digital, 2 D/A Inputs [1] **12** Relay Outputs	**22**	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**12**	—	24VDC
V430-J-TR34	**20** Digital, 2 D/A Inputs [1] **8** Relay, 4 High-speed Transistor Outputs	**22**	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**4** npn	**4** (3 PTO) 200 kHz max	**8**	—	24VDC
V430-J-RH6	**6** Digital, **2** D/A [1], **4** Analog Inputs **6** Relay Outputs	**8**	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA and **4** 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	24VDC
V430-J-RA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **8** Relay, **2** Analog Outputs	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	—	—	**8**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V430-J-TRA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **4** Relay, **2** Analog, **4** High-Speed Transistor Outputs	**12**	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**4** npn	**4** (2 PTO) 200 kHz max	**4**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V430-J-T2	**10** Digital, **2** D/A Inputs [1] **12** Transistor Outputs	**12**	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**12** pnp	**7** 0.5kHz	—	—	24VDC
V430-J-T38	**20** Digital, **2** D/A Inputs [1], **16** Transistor Outputs	**22**	**2** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**16** pnp	**7** 0.5kHz	—	—	24VDC
V430-J-TA24	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **10** Transistor, **2** Analog Outputs	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**10** pnp	**5** 0.5kHz	—	**2** 0-10V, 4 -20mA 12-bit	24VDC

Product Details

I/O Expansion	
	Local or Remote I/Os may be added via expansion port or via CANbus. expands to 512 I/Os (See I/O Expansion Modules- page 28)
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	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.
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] In some models certain inputs are adaptable via wiring and software settings, and can function as digital,high-speed, analog, and in certain models as TC or PT100. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:
- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input
- The first PT input requires 3 pins and two additional pins for each additional PT input.

Example: V430-J-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs.

VISION350™

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
- 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

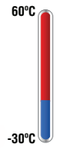
- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- Micro SD card - log, backup, clone & more
- Date & Time-based control

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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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 and 1 RS232/RS485; 2 ports may be added: 1 Serial/Ethernet/ Profibus and 1 CANbus

V350-J
Flat Panel

V350
Classic Panel



NEW! **Extended temperature range unit, operational temperature between -30°C to 60°C.**

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

> "There were significant cost savings using the Unitronics PLC."
>
> **Justin Butler,**
> Senior Electrical Engineer at Energy Plant Solutions

CE/UL

Vision350™ models - Onboard I/Os

Article		Summary	Inputs [1]				Outputs				Operating Voltage
			Digital [2]	HSC/Shaft-encoder [2]	Analog	Temperature Measurement	Transistor [3]	PWM/HSO [3]	Relay	Analog	
V350-J-B1	V350-35-B1	No onboard I/Os	—	—	—	—	—	—	—	—	12/24VDC
V350-J-TR20	V350-35-TR20	**10** Digital, **2** D/A Inputs [1] **6** Relay Outputs **2** High-speed Transistor Outputs	**12**	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**2** npn	**2** (2 PTO) 200 kHz max	**6**	—	24VDC
V350-J-R34	V350-35-R34	**20** Digital, **2** D/A Inputs [1] **12** Relay Outputs	**22**	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**12**	—	24VDC
V350-J-TR34	V350-35-TR34	**20** Digital, **2** D/A Inputs [1] **8** Relay, **4** High-speed Transistor Outputs	**22**	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**4** npn	**4** (3 PTO) 200 kHz max	**8**	—	24VDC
V350-J-TR6	V350-35-TR6	**6** Digital, **2** D/A [1], **4** Analog Inputs **6** Relay Outputs **2** High-speed Transistor Outputs	**8**	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA and **4** 0-20mA, 4-20mA 10-bit	—	**2** npn	**2** (2 PTO) 200 kHz max	**6**	—	24VDC
V350-J-RA22	V350-35-RA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **8** Relay, **2** Analog Outputs	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	—	—	**8**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V350-J-TRA22	V350-35-TRA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **4** Relay, **2** Analog, **4** High-Speed Transistor Outputs	**12**	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**4** npn	**4** (2 PTO) 200 kHz max	**4**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V350-J-T2	V350-35-T2	**10** Digital, **2** D/A Inputs [1] **12** Transistor Outputs	**12**	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**12** pnp	**7** 0.5kHz	—	—	24VDC
V350-J-T38	V350-35-T38	**20** Digital, **2** D/A Inputs [1], **16** Transistor Outputs	**22**	**2** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**16** pnp	**7** 0.5kHz	—	—	24VDC
V350-J-TA24 V350-S-TA24	V350-35-TA24 V350-JS-TA24	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **10** Transistor, **2** Analog Outputs	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**10** pnp	**5** 0.5kHz	—	**2** 0-10V, 4 -20mA 12-bit	24VDC

Product Details

I/O Expansion	
	Local or Remote I/Os may be added via expansion port or via CANbus. Expand up to 512 I/Os (See I/O Expansion Modules- page 28)
Program	
Application Memory	Application Logic: 1MB • Images: 8MB • 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	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] In some models certain inputs are adaptable via wiring and software settings, and can function as digital, high-speed, analog, and in certain models as TC or PT100. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:
- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input
- The first PT input requires 3 pins, and two additional pins for each additional PT input.

Example: V350-35-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs.

VISION130™

Palm-size, powerful PLC with built-in, black & white LCD 2.4" 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 - 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
- BACnet, KNX, M-bus – via 3rd-party converter
- 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

V130-J
Flat Panel

V130
Classic Panel

> "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

Vision130™ models - Onboard I/Os

Article		Summary	Inputs [1]				Outputs				Operating Voltage
			Digital [2]	HSC/Shaft-encoder [2]	Analog	Temperature Measurement	Transistor [3]	PWM/HSO [3]	Relay	Analog	
V130-J-B1	V130-33-B1	No onboard I/Os	—	—	—	—	—	—	—	—	12/24VDC
V130-J-TR20	V130-33-TR20	**10** Digital, 2 D/A Inputs [1] 6 Relay Outputs **2** High-speed Transistor Outputs	12	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**2** npn	**2** (2 PTO) 200 kHz max	**6**	—	24VDC
V130-J-R34	V130-33-R34	**20** Digital, **2** D/A Inputs [1] 12 Relay Outputs	22	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**12**	—	24VDC
V130-J-TR34	V130-33-TR34	**20** Digital, **2** D/A Inputs [1] **8** Relay, **4** High-speed Transistor Outputs	22	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**4** npn	**4** (3 PTO) 200 kHz max	**8**	—	24VDC
V130-J-TR6	V130-33-TR34	**6** Digital, **2** D/A [1], 4 Analog Inputs **6** Relay Outputs **2** High-speed Transistor Outputs	8	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA and **4** 0-20mA, 4-20mA 10-bit	—	**2** npn	**2** (2 PTO) 200 kHz max	**6**	—	24VDC
V130-J-RA22	V130-33-RA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **8** Relay, **2** Analog Outputs	12	**1** 30kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	—	—	**8**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V130-J-TRA22	V130-33-TRA22	**8** Digital, **2** D/A, 2 PT100/ TC/ Digital Inputs [1] **4** Relay, **2** Analog, **4** High-Speed Transistor Outputs	12	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**4** npn	**4** (2 PTO) 200 kHz max	**4**	**2** 0-10V, 4 -20mA 12-bit	24VDC
V130-J-T2	V130-33-T2	**10** Digital, **2** D/A Inputs [1] **12** Transistor Outputs	12	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**12** pnp	**7** 0.5kHz	—	—	24VDC
V130-J-T38	V130-33-T38	**20** Digital, **2** D/A Inputs [1], 16 Transistor Outputs	22	**2** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**16** pnp	**7** 0.5kHz	—	—	24VDC
V130-J-TA24	V130-33-TA24	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs [1] **10** Transistor, **2** Analog Outputs	12	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	**10** pnp	**5** 0.5kHz	—	**2** 0-10V, 4 -20mA 12-bit	24VDC

Product Details

I/O Expansion	
	Local or Remote I/Os may be added via expansion port or via CANbus. Expand up to 256 I/Os (See I/O Expansion Modules- page 28)
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 some models certain inputs are adaptable via wiring and software settings, and can function as digital, high-speed, analog, and in certain models as TC or PT100. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:
- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input
- The first PT input requires 3 pins, and two additional pins for each additional PT input.

Example: V130-33-RA22 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs.

VISION 120™

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

V120

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
- 2 RS232/RS485 built-in ports

Communication

- SMS messaging
- GPRS/GSM
- Remote Access utilities
- MODBUS protocol support
- BACnet, KNX, M-bus – via 3rd-party converter
- CANbus: CANopen, UniCAN (in C models only)
- FB Protocol Utility: enables serial with 3rd-party device–barcode readers, frequency converters, etc.

I/O Expansion Modules

		Inputs [1]				Outputs				Operating Voltage
Article	Summary	Digital [2]	HSC/Shaft-encoder [2]	Analog	Temperature Measurement	Transistor [3]	PWM/HSO [3]	Relay	Analog	
V120-22-R1	**10** Digital, **1** Analog Inputs **6** Relay Outputs	**10**	**3** 10kHz, 32-bit	**1** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	12/24VDC
V120-22-R2C	**10** Digital, **2** Analog Inputs **6** Relay Outputs	**10**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	12/24VDC
V120-22-R6C	**6** Digital, **6** Analog Inputs **6** Relay Outputs	**6**	**1** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA and **4** 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	24VDC
V120-22-R34	**20** Digital, **2** D/A Inputs[1] **12** Relay Outputs	**22**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**12**	—	24VDC
V120-22-T1	**12** Digital Inputs **12** Transistor Outputs	**12**	**2** 10kHz, 32-bit	—	—	**12** pnp	**2** 0.5kHz	—	—	12/24VDC
V120-22-T38	**22** Digital Inputs **16** Transistor Outputs	**22**	**2** 10kHz, 32-bit	—	—	**16** pnp		—	—	24VDC
V120-22-T2C	**10** Digital, **2** D/A Inputs[1] **12** Transistor Outputs	**12**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**12** pnp		—	—	12/24VDC
V120-22-UN2	**10** Digital, **2** D/A/ TC/PT100 Inputs[1] **12** Transistor Outputs	**12**	**2** 10kHz, 32-bit	**2** Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit		**12** pnp		—	—	12/24VDC
V120-22-UA2	**10** Digital, **2** D/A/TC1 Inputs **10** Transistor, 2 Analog Outputs	**12**	**1** 10kHz, 32-bit	**2** Thermocouple, 0-10V, 0-20mA, 4-20mA 14-bit		**10** pnp		—	**2** 0-10V, 4 -20mA 12-bit	24VDC
V120-22-RA22	**8** Digital, **2** D/A, **2** TC/ PT100/Digital Inputs[1] **8** Relay, **2** Analog Outputs	**12**	**1** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	—	—	**8**	**2** 0-10V, 4 -20mA 12-bit	24VDC

Product Details

I/O Expansion	
	Local or Remote I/Os may be added via expansion port or via CANbus. Expands 256 I/Os (See I/O Expansion Modules - page 28)
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	V120-22-R1 / R2C / T1 / T2C / UN2 : 12/24VDC • V120-22-R6C / R34 / T38 / UA2 / RA22 : 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 some models certain inputs are adaptable via wiring and software settings, and can function as digital, analog, and in certain models as TC or PT100. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:

- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input
- The first PT input requires 3 pins, and two additional pins for each additional PT input.

Example: V120-22-UA2 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs

VISION 200™

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

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

- SMS messaging
- GPRS/GSM
- Remote Access utilities
- MODBUS protocol support
- BACnet, KNX, M-bus – via 3rd-party converter
- CANbus: CANopen, UniCAN (in C models only)
- 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

	V230™	V280™	V290™	V530™
				
Article Number	V230-13-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. Expand up to 316 I/Os (See I/O Expansion Modules - page 28)			
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 192K fixed data			
Operator Panel				
Type	STN LCD	Black & White FSTN LCD		
Display Resolution & Size	128 x 64 pixels 3.2”	320 x 240 pixels (QVGA), 4.7” active area	320 x 240 pixels (QVGA), 5.7” active area	
Touch Screen	—	Resistive, Analog		
Keys	24 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 (when panel mounted)			
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics			

SAMBA™

Full-function PLC with built-in, high resolution 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" - 480 x 272, 7" - 800 x 480
- 24 user-designed screens and 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: 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
- BACnet, KNX, M-bus – via 3rd-party converter
- CANbus: CANopen, UniCAN, SAE J1939, and more
- DF1 Slave
- Programming 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"

> "It really enhanced our product's look and flexibility."
>
> **Ralph Hannmann,**
> President of Alyan Pump Company

CE/UL

Samba™ models - Onboard I/Os

		Inputs [1]				Outputs				Operating Voltage
Article	Summary	Digital[2]	HSC/Shaft-encoder [2]	Analog	Temperature Measurement	Transistor [3]	PWM/HSO [3]	Relay	Analog	
SM35-J-R20 SM43-J-R20 SM70-J-R20	**10** Digital, **2** D/A Inputs [4], **8** Relay Outputs	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**8**	—	24VDC
SM35-J-T20 SM43-J-T20 SM70-J-T20	**10** Digital, **2** D/A Inputs, **8** Transistor Outputs	**12**	**3** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**8** pnp	**7** 0.5kHz	—	—	24VDC
SM35-J-RA22 SM43-J-RA22 SM70-J-RA22	**12** Digital, **1** HSC/Shaft-encoder, **2** AI , **2** PT100/TC, **8** Relay, **2** AO	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 12/14-bit	**2** PT100/TC	—	—	**8**	0-10V, 4-20mA [2], 12-bit	24VDC
SM35-J-TA22 SM43-J-TA22 SM70-J-TA22	**12** Digital, **1** HSC/Shaft-encoder, **2** AI, **2** PT100/TC, **8** Transistor, **2** AO	**12**	**1** 30kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 12/14-bit	**2** PT100/TC	**8** pnp	**5** 0.5kHz	—	0-10V, 4-20mA, 12-bit	24VDC

Product Details

I/O Expansion	
	Remote I/Os via CANbus
Program	
Application Memory	SM35: Application Logic: 112kb • Images: **1 MB** • Fonts: 512 kb SM43: Application Logic: 176kb • Images: **2 MB** • Fonts: 512 kb SM70: Application Logic: 176kb • Images: **5 MB** • Fonts: 512 kb
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	—
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 • 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] In some models certain inputs are adaptable via wiring and software settings, and can function as digital or analog.
Adapting requires input pins. This reduces the number of digital inputs.
Pin requirements:
• Each analog input requires 1 pin.
Example: SM35-J-R20 offers 12 digital inputs. Implementing 2 analog inputs requires 2 pins, leaving 10 pins free.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs.

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

JAZZ®

An all-in-one unit that is as affordable as a "smart relay" - full-function PLC combined with a textual HMI and keypad, 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®-J
Flat Panel

Jazz®
Classic Panel

> "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

CE/UL

Jazz™ models - Onboard I/Os

		Inputs[1]				Outputs				
Article	**Summary**	**Digital [2]**	**HSC/Shaft-encoder [2]**	**Analog**	**Temperature Measurement**	**Transistor [3]**	**PWM/HSO [3]**	**Relay**	**Analog**	**Operating Voltage**
JZ20-R10 **JZ20-J-R10**	**6** Digital Inputs **4** Relay Outputs	**6**	**2** 10kHz, 16-bit	—	—	—	—	**4**	—	24VDC
JZ20-R16 **JZ20-J-R16**	**6** Digital, **2** D/A, **2** Analog Inputs [1] **6** Relay Outputs	**8**		**2** 0-10V 10 or 12-bit **2** 0-20mA, 4-20mA 10 or 12-bit	—	—	—	**6**	—	24VDC
JZ20-J-R16HS	**6** Digital, **3** 3HSC/Shaft-encoder, **2** A/D, **2** AI, **6** Relay outputs	**8**		**2** 0-10V 10 or 12-bit **2** 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	24VDC
JZ20-R31 **JZ20-J-R31**	**16** Digital, **2** D/A , **2** Analog Inputs [1] **11** Relay Outputs	**18**		**2** 0-10V 10 or 12-bit **2** 0-20mA, 4-20mA 10-bit	—	—	—	**11**	—	24VDC
JZ20-T10 **JZ20-J-T10**	**6** Digital Inputs **4** Transistor Outputs	**6**		—	—	**4** pnp	—	—	—	24VDC
JZ20-T18 **JZ20-J-T18**	**6** Digital, **2** D/A, **2** Analog Inputs [1] **8** Transistor Outputs	**8**		**2** 0-10V 10-bit **2** 0-20mA, 4-20mA 10-bit	—	**8** pnp	—	—	—	24VDC
JZ20-J-T20HS	**6** Digital, **3** 3HSC/Shaft-encoder, **2** A/D, **2** AI, **10** Transistor outputs	**8**		**2** 0-10V 10-bit	—	**8** pnp	**2** 32kHz	—	—	24VDC
JZ20-T40 **JZ20-J-T40**	**16** Digital, 2 D/A, **2** Analog Inputs [1] **20** Transistor Outputs	**18**		**2** 0-10V 10-bit **2** 0-20mA, 4-20mA 10-bit	—	**20** pnp	—	—	—	24VDC
Z20-UA24 **JZ20-J-UA24**	**9** Digital Inputs, **1** HSC, **2** A/D, **2** AI, **2** TC/PT100, **5** Relay Outputs, **2** Transistor Outputs, **2** AO	**11**	**2** 10kHz, 16-bit	**2** 0-20mA 4-20mA **2** 0-10 VDC	**2** Thermocouple, PT100	**2** pnp	**2**	**5**	**2** +/-10V, 4 -20mA 12-bit	24VDC
JZ10-11-UN20 **JZ10-J-UN20**	**9** Digital, **2** D/A, [1] Analog **1** TC/PT100 Inputs [1] **5** Relay **2** Transistor Outputs	**11**	**1** 5kHz, 16-bit	**2** 0-10V 10-bit **1** 0-20mA, 4-20mA 10-bit	**1** Thermocouple, PT100	**2** pnp	**2**	**5**	—	24VDC
JZ10-11-PT15 **JZ10-J-PT15**	**3** Digital, **3** D/A, **3** PT1000/NI1000 Inputs [1] **3** Relay **1** Transistor Outputs	**6**	**1** 5kHz, 16-bit	**3** 0-10V[2] 10-bit	**3** PT1000/NI1000	**1** pnp	**1**	**5**	—	24VDC

Jazz 2 – Soon to come

Product Details

Program	
Ladder Code Memory	JZ20: 48K • JZ10: 24K
Memory Operands	256 coils, 256 registers, 64 timers
Operator Panel	
Type	STN LCD
Display	2 lines x 16 characters
Touchscreen	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	JZ20: On Board Mini USB • JZ10: Article No.: JZ-PRG sold separately
Communication	
Serial	RS232/RS485 Add-on port (isolated), Article No.: JZ-RS4 sold separately
Ethernet	JZ20: Ethernet add-on port, Article No.: MJ20-ET1 sold separately • JZ10: Not supported

[1] In some models certain inputs are adaptable, and can function as either digital or analog. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements: Each analog input requires 1 pin.

[2] Note that the high-speed inputs are included in the total number of digital inputs

[3] Note that the high-speed outputs are included in the total number of npn/pnp digital outputs

[4] In order to download applications and enable communications, install Jazz® with the appropriate Add-on Module. JZ20 can be programmed via built-in USB device port.

Add-on modules and accessories

New!

COM Port kit	Ethernet Communication Port	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

M91™ models - Onboard I/Os

		Inputs[1]				Outputs				Operating Voltage
Article	Summary	Digital [2]	HSC/Shaft-encoder [2]	Analog	Temperature Measurement	Transistor [3]	PWM/HSO [3]	Relay	Analog	
M91-2-R1	**10** Digital, **1** Analog Inputs **6** Relay Outputs	**10**	**3** 10kHz, 32-bit	**1** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	12/24VDC
M91-2-R2C	**10** Digital, **2** Analog Inputs **6** Relay Outputs	**10**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	12/24VDC
M91-2-R6C	**6** Digital, **6** Analog Inputs **6** Relay Outputs	**6**	**1** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA **4** 0-20mA, 4-20mA 10-bit	—	—	—	**6**	—	24VDC
M91-2-R34	**20** Digital, **2** D/A Inputs [1] 12 Relay Outputs	**22**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	—	—	**12**	—	24VDC
M91-2-T1	**12** Digital Inputs **12** Transistor Outputs	**12**	**2** 10kHz, 32-bit	—	—	12 pnp	2 0.5kHz	—	—	12/24VDC
M91-2-T38	**22** Digital Inputs **16** Transistor Outputs	**22**	**2** 10kHz, 32-bit	—	—	16 pnp		—	—	24VDC
M91-2-T2C	**10** Digital, **2** D/A Inputs [1] **12** Transistor Outputs	**12**	**3** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**12** pnp		—	—	12/24VDC
M91-2-UN2	**10** Digital, **2** D/A/ PT100/TC Inputs [1] **12** Transistor Outputs	**12**	**2** 10kHz, 32-bit	**2** Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit		**12** pnp		—	—	12/24VDC
M91-2-UA2	**10** Digital, **2** D/A/TC Inputs [1] **10** Transistor, **2** Analog Outputs	**12**	**1** 10kHz, 32-bit	**2** Thermocouple, 0-10V, 0-20mA, 4-20mA 14-bit		**10** pnp		—	2 0-10V, 4 -20mA 12-bit	24VDC
M91-2-RA22	**8** Digital, **2** D/A, **2** PT100/ TC/Digital Inputs [1] **8** Relay, 2 Analog Outputs	**12**	**1** 10kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 14-bit	**2** Thermocouple, PT100	—	—	**8**	2 0-10V, 4 -20mA 12-bit	24VDC

Product Details

I/O Expansion	
	I/Os may be added via expansion port. expands 150 I/Os
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	M91-2-R1 / R2C / T1 / T2C / UN2 : 12/24VDC • M91-2-R6C / R34 / T38 / UA2 / RA22 : 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 some models certain inputs are adaptable via wiring and software settings, and can function as digital, high-speed, analog and in certain models as TC or PT100.
Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:
- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input
- The first PT input requires 3 pins, and two additional pins for each additional PT input.

Example: V91-2-UA2 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

[2] The total number of digital inputs listed includes high-speed and adaptable inputs.

[3] The total number of digital outputs listed includes high-speed outputs.

I/O Expansion Modules

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.

		Inputs					Outputs				Operating Voltage
	Expansion Modules Article	Digital[5]	HSC[5]	Analog	Temperature Measurement	Weight Measurement	Transistor[6]	PWM/HSO[6]	Relay	Analog	
Digital	IO-DI8-TO8	**8** pnp/npn	**1** 5kHz 16-bit	—	—	—	**8** pnp	—	—	—	24VDC[9]
	IO-DI8-RO4	**8** pnp/npn	**1** 5kHz 16-bit	—	—	—	—	—	**4**	—	24VDC[9]
	IO-DI8-RO8	**8** pnp/npn	**1** 5kHz 16-bit	—	—	—	—	—	**8**	—	24VDC[9]
	EX90-DI8-RO8[3]	**8** pnp	**1** 5kHz 16-bit	—	—	—	—	—	**8**	—	24VDC
	IO-DI16	**16** pnp/npn	**1** 5kHz 16-bit	—	—	—	—	—	—	—	24VDC[9]
	IO-TO16	—	—	—	—	—	**16** pnp	—	—	—	24VDC
	IO-RO8	—	—	—	—	—	—	—	**8**	—	24VDC[9]
	IO-RO16	—	—	—	—	—	—	—	**16**	—	24VDC[9]
	IO-DI8ACH	**8** AC	—	—	—	—	—	—	—	—	110/220 VAC
Analog, Temperature and Weight/Strain Measure-ments	IO-AI4-AO2	—	—	**4** 0-10V, 0-20mA, 4-20mA 12-bit	—	—	—	—	—	**2** ±10V 12-bit+sign, 0-20mA, 4-20mA 12-bit	24VDC
	IO-PT400	—	—	—	**4** PT100/NI100/NI120	—	—	—	—	—	Not relevant
	IO-PT4K	—	—	—	**4** PT1000/NI1000	—	—	—	—	—	Not relevant
	IO-AO6X	—	—	—	—	—	—	—	—	**6** (Isolated) 0-10V, 0-20mA, 4-20mA 12-bit	24VDC
	IO-LC1	**1** pnp	—	—	—	**1** Loadcell / Strain gauge	**2** pnp	—	—	—	24VDC
	IO-LC3	**1** pnp	—	—	—	**3** Loadcell / Strain gauge	**2** pnp	—	—	—	24VDC
	IO-ATC8	—	—	**8** Thermocouple, 0-10V, 0-20mA, 4-20mA 14-bit		—	—	—	—	—	Not relevant
	IO-AI8	—	—	**8** 0-10V, 0-20mA, 4-20mA 14-bit	—	—	—	—	—	—	Not relevant
XL Digital/ Analog	IO-D16A3-RO16	**16** pnp/npn	**2** 30kHz 16/32-bit[8]	**3** 0-20mA, 4-20mA 10-bit	—	—	—	—	**16**	—	24VDC
	IO-D16A3-TO16	**16** pnp/npn	**1** 30kHz 16/32-bit[8]	**3** 0-20mA, 4-20mA 10-bit	—	—	**15** pnp, **1** pnp/npn	**1** pnp 0.5kHz npn 50kHz	None	—	24VDC
	EX-D16A3-RO8[7]	**16** pnp/npn	**2** 30kHz 16/32-bit[8]	**3** 0-20mA, 4-20mA 10-bit	—	—	None	None	**8**	—	24VDC
	EX-D16A3-TO16[7]	**16** pnp/npn	**1** 30kHz 16/32-bit[8]	**3** 0-20mA, 4-20mA 10-bit	—	—	**15** pnp **1** pnp/npn	**1** pnp 0.5kHz npn 50kHz	None	—	24VDC
High-speed Remote I/O Module	EXF-RC15[2,4]	**9** pnp/npn	**3** 200kHz 32-bit	—	—	—	**4** npn	**4** (up to 3 PTO)	**2**	—	24VDC

I/O Expansion Module Adapters

	Article	Description
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[1,4]	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 supported I/Os & I/O modules varies according to module.
2. The EXF-RC15 functions as a node in a Vision UniCAN network and connects to the Vision controller via CANbus and programmed in VisiLogic. The EXF-RC15 cannot be extended as regular I/O unit. High-speed inputs are configurable as either high-speed counter (HSC) or shaft-encoder.
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. Supported by Vision series. Not supported by M91 series.
5. The total number of digital inputs listed includes high-speed inputs. Example: the IO-D16A3-TO16 offers a total of 16 pnp/npn inputs. You can configure I4 as a HSC and I5 as a Counter reset; this reduces the available number of digital inputs to 14.
6. The total number of digital outputs listed includes high-speed outputs. Example: the IO-D16A3-TO16 offers a total of 16 transistor outputs. You can configure 1 to High-speed output, reducing the number of available digital outputs to 15.
7. Functions as local adapter. Can support up to 7 I/O modules.
8. 16-bit or 32-bit, depending on the PLC.
9. Also available as 12VDC – contact us for part number.

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.

	Inputs				Outputs				Operating Voltage
Sanp-in I/O Article	Digital (isolated)[1]	HSC/Shaft-encoder[1]	Analog	Temperature Measurement	Transistor (isolated)[2]	PWM/HSO[2]	Relay	Analog	
V200-18-E1B	**16** pnp/npn	**2** 10kHz 32-bit	**3** 0-10 V, 0-20mA, 4-20mA 10-bit	—	**4** pnp/npn	**2** pnp 0.5kHz npn 50kHz	**10**	—	24VDC
V200-18-E2B	**16** pnp/npn	**2** 10kHz 32-bit	**2** 0-10 V, 0-20mA, 4-20mA 10-bit	—	**4** pnp/npn	**2** pnp 0.5kHz npn 50kHz	**10**	**2** 0-10 V,0-20mA,4-20mA 12-bit	24VDC
V200-18-E3XB	**18** pnp/npn	**2** 10kHz 32-bit	**4** (Isolated) Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit		**2** pnp/npn	**2** pnp 0.5kHz npn 50kHz	**15**	**4** (Isolated) 0-10 V, 4-20mA 12-bit	24VDC
V200-18-E4XB	**18** pnp/npn	**2** 10kHz 32-bit	**4** (Isolated) Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit		**15** pnp **2** npn/pnp	**2** pnp 0.5kHz npn 50kHz	—	**4** (Isolated) 0-10 V, 4-20mA 12-bit	24VDC
V200-18-E5B	**18** pnp/npn	**2** 10kHz 32-bit	**3** 0-10 V,0-20mA, 4-20mA 10-bit	—	**15** pnp **2** npn/pnp	**2** pnp 0.5kHz npn 50kHz	—	—	24VDC
V200-18-E6B	**18** pnp/npn	**2** 10kHz 32-bit	**2** Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit **3** 0-10V, 0-20mA, 4-20mA 10-bit		**2** pnp/npn	**2** pnp 0.5kHz npn 50kHz	**15**	**2** (Isolated) 0-10 V, 4-20mA 12-bit	24VDC
V200-18-E46B	**18** pnp/npn	**2** 10kHz 32-bit	**6** 0-10 V,0-20mA,4-20mA 14-bit **3** 0-10 V,0-20mA,4-20mA 10-bit	—	**2** pnp/npn	**2** pnp 0.5kHz npn 100kHz	**15**	**2** (Isolated) 0-10 V, 4-20mA 12-bit	24VDC
V200-18-E62B[3]	**30** pnp/npn	**2** 10kHz 32-bit	**2** 0-10 V,0-20mA,4-20mA 10-bit	—	**28** pnp **2** npn/pnp	**2** pnp 0.5kHz npn 100kHz	—	—	24VDC

1. The total number of digital inputs listed includes high-speed inputs.
2. The total number of digital outputs listed includes high-speed outputs.
3. Not yet UL certified

Additional COM Modules

Enhance Vision's communication capabilities[1]

Vision Model	Ethernet	RS232/RS485	Isolated RS232/RS485	CANbus	Profibus
SAMBA	V100-17-ET2	V100-17-RS4	V100-17-RS4X	V100-17-CAN	—
V130, V350, V430	V100-17-ET2, V100-S-ET2[2]	V100-17-RS4	V100-17-RS4X	V100-17-CAN, V100-S-CAN[2]	V100-17-PB1
V200,V500, V1040,V1210[1]	V200-19-ET2	V200-19-RS4	V200-19-RS4-X	Included	—
V700	Included	V100-17-RS4	V100-17-RS4X	V100-17-CAN	V100-17-PB1

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. Extended temperature cards, operational temperature : -30°C to 60°C

DIN-rail Power Supplies

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

GSM

GSM-KIT-17J-3G
KIT, MODEM GPRS, CINTERION, EHS6T

GEN00199-A5 - EUR - 170

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