Outstanding Support

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 a single, intuitive software environment, which includes an 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.

Powerful Software

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.
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.
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.
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<td>Network Configuration</td>
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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

Trend Graphs
Display dynamic values in real-time

HMI Application
Create beautiful HMI displays – includes rich image library

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

<table>
<thead>
<tr>
<th>Utility Name</th>
<th>Function</th>
<th>Key Features</th>
<th>Targeted Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Access</td>
<td>View and control a PLC directly from PC, via local or remote connection</td>
<td>• View an HMI panel; use the PC keyboard + mouse to run the HMI application</td>
<td>• Operators requiring Remote Access</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Operand and Data Table values: view values during runtime, import and export values to/from Excel/.csv files</td>
<td>• System integrators: remote debugging, troubleshooting, fault-finding</td>
</tr>
<tr>
<td>Remote Operator</td>
<td>Simultaneously view and operate the HMI panels of multiple PLCs in multiple locations</td>
<td>• Easily place HMI panels side-by-side to monitor distributed systems, or applications in several locations</td>
<td>• Control room operators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Run the HMI applications via PC keyboard + mouse</td>
<td>• Installation Managers</td>
</tr>
<tr>
<td>DataXport</td>
<td>Create Data Logs from Data Tables and operand values in PLCs</td>
<td>• Harvest data from multiple PLCs - on demand or according to time/date</td>
<td>• Data analysts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Export the data to Excel/CSV files</td>
<td>• Plant managers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Automatically email files</td>
<td>• Process engineers</td>
</tr>
<tr>
<td>UniDownload Designer</td>
<td>Create compressed VisiLogic / U90Ladder applications(.udc files) for secure installation in local or remote PLCs</td>
<td>• Prevent end-users from uploading and opening the application</td>
<td>OEMs / System Integrators can:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Include an OS to be installed at download</td>
<td>• Protect source code.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Set a Download channel, restrict end-user actions after installation and more</td>
<td>• Enable customers to install an application without using VisiLogic or U90Ladder</td>
</tr>
<tr>
<td>Download Manager &amp; UniDownloader</td>
<td>Securely install .udc applications in local or remote PLCs</td>
<td>• Download Manager: installs the same application in multiple PLCs</td>
<td>OEMs / System Integrators in installations with high security requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• UniDownloader: installs an application in a single PLC</td>
<td></td>
</tr>
<tr>
<td>SD Card Suite</td>
<td>Remotely access and manage SD cards and their data</td>
<td>• Browse a remote PLC’s SD card.</td>
<td>• Data analysts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Read/write data, including Data Table files</td>
<td>• Plant managers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View SD card contents - Trends, logs, alarm history, data tables - export to Excel</td>
<td>• Process engineers</td>
</tr>
<tr>
<td>UniVision Licensing</td>
<td>Safeguard your PLC application security</td>
<td>• Embeds unique licenses in the PLC, which enables application to run only on a licensed PLC</td>
<td>System integrators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Option to activate or deactivate different sections of your application</td>
<td>• OEMs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prevents theft of applications</td>
<td></td>
</tr>
<tr>
<td>UniOPC Server</td>
<td>Exchange data between Unitronics PLCs and OPC-supported software</td>
<td>• Create channel to connect PLCs to SCADA systems, such as plant control rooms</td>
<td>Control room operators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Compliant with the OPC foundation standards</td>
<td></td>
</tr>
<tr>
<td>UniDDE</td>
<td>Exchange data with Windows based applications</td>
<td>Enables data exchange between Unitronics PLC’s and software that supports Microsoft’s Dynamic Data Exchange protocols, like Excel.</td>
<td>Control rooms operators</td>
</tr>
<tr>
<td>Programming tools for developers</td>
<td>Easily implement communication between PLC &amp; PC applications</td>
<td>Using ActiveX &amp; .NET communication drivers</td>
<td>Developers</td>
</tr>
</tbody>
</table>
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
I've not yet encountered a job that a Unitronics PLC was unable to cover.

Timothy Moulder,
Engineer at Black & Decker
Features:

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- Up to 1024 user-designed screens
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- 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

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
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

<table>
<thead>
<tr>
<th>I/O Options</th>
<th>V570</th>
<th>V560</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snap-in I/O Modules</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>I/O Expansion</td>
<td>Local or Remote I/Os may be added via expansion port or via CANbus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Memory</td>
<td>Application Logic: 2MB • Images: 12MB for V570, 8MB for V560 • Fonts: 1MB</td>
</tr>
<tr>
<td>Scan Time</td>
<td>9µsec per 1K of typical application</td>
</tr>
<tr>
<td>Memory Operands</td>
<td>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</td>
</tr>
<tr>
<td>Data Tables</td>
<td>120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K fixed data</td>
</tr>
<tr>
<td>SD Card</td>
<td>Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI &amp; OS, clone PLCs</td>
</tr>
<tr>
<td>Enhanced Features</td>
<td>Trends: graph any value and display on HMI • Built-in Alarm management system • String Library: instantly switch HMI language</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Operator Panel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>TFT LCD</td>
</tr>
<tr>
<td>Display Backlight Illumination</td>
<td>White LED</td>
</tr>
<tr>
<td>Colors</td>
<td>65,536 colors, 16 bit resolution • Brightness - Adjustable via touchscreen or software</td>
</tr>
<tr>
<td>Display Resolution &amp; Size</td>
<td>320 x 240 pixels (QVGA), 5.7”</td>
</tr>
<tr>
<td>Touchscreen</td>
<td>Resistive, Analog</td>
</tr>
<tr>
<td>Keys</td>
<td>Virtual keyboard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>12/24VDC</td>
</tr>
<tr>
<td>Battery</td>
<td>7 years typical at 25°C, battery back-up for all memory sections and RTC</td>
</tr>
<tr>
<td>Clock</td>
<td>Real-time clock functions (date and time)</td>
</tr>
<tr>
<td>Environment</td>
<td>IP65/NEMA4X (when panel mounted)</td>
</tr>
<tr>
<td>Standard</td>
<td>CE, UL</td>
</tr>
</tbody>
</table>

Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics

* Not yet UL certified
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
<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No onboard I/Os</td>
<td>10 Digital 2 D/A Inputs</td>
<td>20 Digital 2 D/A Inputs</td>
<td>20 Digital 2 D/A Inputs</td>
<td>6 Digital 2 D/A</td>
<td>8 Digital 2 D/A</td>
<td>8 Digital, 2 D/A</td>
<td>10 Digital 2 D/A Inputs</td>
<td>8 Digital</td>
<td>2 D/A/PT100/TCC/Digital Inputs</td>
</tr>
<tr>
<td>6 Relay Outputs</td>
<td>12 Relay Outputs</td>
<td>12 Relay Outputs</td>
<td>6 Relay Outputs</td>
<td>8 Relay</td>
<td>8 Relay</td>
<td>8 relay</td>
<td>2 Relay</td>
<td>4 Relay</td>
<td>2 relay</td>
</tr>
<tr>
<td>2 High-speed</td>
<td>Transistor</td>
<td>Outputs</td>
<td>Transistor</td>
<td>Outputs</td>
<td>Outputs</td>
<td>Outputs</td>
<td>Outputs</td>
<td>Outputs</td>
<td></td>
</tr>
<tr>
<td>Analog</td>
<td>Temperature Measurement</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>High-Speed Outputs/PWM</td>
<td>None</td>
<td>2 10-bit, 0-10V/4-20mA</td>
<td>2 10-bit, 0-10V/4-20mA</td>
<td>2 10-bit, 0-10V/4-20mA</td>
<td>1 200kHz</td>
<td>1 30kHz</td>
<td>3 30kHz</td>
<td>1 30kHz</td>
<td></td>
</tr>
<tr>
<td>2 npn (2 PTO)</td>
<td>200kHz max</td>
<td>2 npn (2 PTO) 200kHz max</td>
<td>2 npn (2 PTO) 200kHz max</td>
<td>2 npn (2 PTO) 200kHz max</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Analog</td>
<td>2 12-bit 0-10V, 4-20mA</td>
<td>2 12-bit 0-10V, 4-20mA</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

## I/O Expansion

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

### Program

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-parameters, 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 datalog, 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

TFT LCD • 65,536 colors, 16-bit resolution • Brightness - Adjustable via touchscreen or software

Display Resolution: 480x272 pixels • Size: 4.3"

Touchscreen Resistive, Analog

5 programmable keys. Labeling options - function keys, arrows, or customized

### General

Power Supply 24V/DC, 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 IP65/IP66/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 to certain models as TC or PT100. This reduces the number of free digital inputs. For example, V330-JS-R422 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 on driver type.
**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
- 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

**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.

There were significant cost savings using the Unitronics PLC.

Justin Butler,
Senior Electrical Engineer at Energy Plant Solutions

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat Panel</td>
<td>No onboard I/Os</td>
<td>10 Digital 2 D/A Inputs(^1) 6 Relay Outputs 2 High-speed Transistor Outputs</td>
<td>20 Digital 2 D/A Inputs(^1) 12 Relay Outputs 4 Analog Inputs(^1) 4 High speed Transistor Outputs</td>
<td>20 Digital 2 D/A Inputs(^1) 12 Relay Outputs 2 Analog Inputs(^1)</td>
<td>6 Digital, 2 D/A 4 Analog Inputs(^1) 2 Relay Outputs 2 High-speed Transistor Outputs</td>
<td>8 Digital, 2 D/A 2 PT100/TC Digital Inputs 4 Analog Outputs 2 Relay Outputs 2 Analog Inputs(^1)</td>
<td>8 Digital, 2 D/A 2 PT100/TC Digital Inputs 4 Analog Outputs 2 Relay Outputs 2 Analog Inputs(^1)</td>
<td>10 Digital 12 Relay Outputs 2 Analog Inputs(^1)</td>
<td>20 Digital 12 Relay Outputs 10 Digital 2 D/A Inputs(^1) 12 Relay Outputs 2 Analog Inputs(^1)</td>
<td>20 Digital 12 Relay Outputs 12 Relay Outputs 2 Analog Inputs(^1)</td>
<td></td>
</tr>
</tbody>
</table>

**Inputs**
- **Digital pnp/npn**
  - 12
  - 20
  - 8
  - 12
  - 12
  - 22
  - 22
  - 8
  - 12
  - 12
  - 12
  - 12
  - 12

**Analog**
- 3 200kHz\(^2\) 30kHz 10-bit, 0-10V 0-20mA 4-20mA
- 3 30kHz 32-bit
- 3 200kHz\(^2\) 32-bit
- 2 100kHz 12-bit
- 2 100kHz\(^3\) 200kHz max
- 2 20kHz 14-bit
- 2 10-bit, 0-10V 0-20mA 4-20mA
- 2 10-bit, 0-10V 4-20mA
- 1 10-bit, 0-20mA 0-20mA
- 2 14-bit 1-10V, 0-20mA 4-20mA
- 1 30kHz 32-bit
- 1 200kHz\(^4\) 32-bit
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA
- 2 10-bit, 0-20mA 0-20mA 4-20mA
- 2 10-bit, 0-20mA 4-20mA

**Temperature Measurement**
- None
- None
- None
- None
- None

**Outputs**
- **Digital**
  - 6 relay
  - 12 relay
  - 8 relay
  - 6 relay
  - 8 relay
  - 4 relay
  - 12 pnp
  - 16 pnp
  - 10 pnp

- **High-Speed Outputs/PWM**
  - 2 npn (2 PTO) 200kHz max
  - 4 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 7 0.5kHz
  - 7 0.5kHz
  - 5 0.5kHz

- **Analog**
  - 2 12-bit 0-10V, 0-20mA
  - 2 12-bit 0-10V, 0-20mA
  - 2 12-bit 0-10V, 0-20mA
  - 2 12-bit 0-10V, 0-20mA
  - 2 12-bit 0-10V, 0-20mA

**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-Doubles 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 (OOGA) • Size: 3.5”
- **Touchscreen Keys**
  - Resistive, Analog
  - 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.
VISON 130™ 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
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.  

### V130

<table>
<thead>
<tr>
<th>Article Number</th>
<th>Classic Panel</th>
<th>Flat Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>V130-33-81 J-B1</td>
<td>No onboard I/Os</td>
<td>10 Digital, 2 D/A Inputs, 6 Relay Outputs, 2 High-speed Transistor Outputs</td>
</tr>
<tr>
<td>V130-33-TR20 J-B1</td>
<td>12 Digital, 2 D/A Inputs, 12 Relay Outputs, 2 High-speed Transistor Outputs</td>
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</tr>
<tr>
<td>V130-33-TR24 J-B1</td>
<td>20 Digital, 4 Relay Outputs, 4 High-speed Transistor Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-TR34 J-B1</td>
<td>20 Digital, 4 Relay Outputs, 4 High-speed Transistor Outputs</td>
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</tr>
<tr>
<td>V130-33-TR34 J-B1</td>
<td>20 Digital, 4 Relay Outputs, 4 High-speed Transistor Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-TR6 J-B1</td>
<td>6 Digital, 2 D/A Inputs, 6 Relay Outputs, 2 High-speed Transistor Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-RA22 J-B1</td>
<td>8 Digital, 2 D/A Inputs, 8 Relay, 2 Analog Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-T2 J-B1</td>
<td>10 Digital, 2 D/A Inputs, 10 Transistor Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-T2 J-B1</td>
<td>20 Digital, 10 Transistor Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-T2 J-B1</td>
<td>8 Digital, 2 D/A Inputs, 10 Analog Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-T8 J-B1</td>
<td>10 Digital, 2 D/A Inputs, 10 Analog Outputs</td>
<td></td>
</tr>
<tr>
<td>V130-33-TA24 J-B1</td>
<td>8 Digital, 2 D/A Inputs, 10 Analog Outputs</td>
<td></td>
</tr>
</tbody>
</table>

#### Inputs

- **Digital I/Os**
  - 12 Digital
  - 22 D/A Inputs
  - 22 Relay Outputs
  - 8 HSC/Shaft-Encoders/Digital
  - 8 High-speed Transistor Outputs
  - 2 PT100/TC/Digital
  - 2 PT100/TC/Digital

- **Analog Inputs**
  - 3 200kHz
  - 2 20kHz
  - 2 10kHz
  - 2 1 kHz
  - 2 10kHz
  - 2 1 kHz
  - 2 10kHz
  - 2 1 kHz

- **Temperature Measurement**
  - None
  - None
  - None
  - None

#### Outputs

- **Digital Outputs**
  - 6 Relay
  - 12 Relay
  - 8 Relay
  - 6 Relay
  - 4 Relay
  - 2 PT100/TC
  - 2 PT100/TC
  - 12 Relay
  - 16 Relay
  - 10 Relay

- **High-Speed Outputs/PWM**
  - 2 npn (2 PTO) 200kHz max
  - 4 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 4 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max
  - 2 npn (2 PTO) 200kHz max

- **Analog**
  - None
  - None
  - None
  - None

#### 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 V130-33-81, 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.**
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
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.

Certain inputs can function as high-speed counters, shaft-encoder inputs, or normal digital inputs. This specification depends on cable length. Certain outputs can function as high-speed or PWM outputs.

1 In those 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.

---

### V120

<table>
<thead>
<tr>
<th>Article Number</th>
<th>V120-22-R1</th>
<th>V120-22-R2C</th>
<th>V120-22-R6C</th>
<th>V120-22-R34</th>
<th>V120-22-T1</th>
<th>V120-22-T38</th>
<th>V120-22-TC2</th>
<th>V120-22-UN2</th>
<th>V120-22-UA2</th>
<th>V120-22-RA22</th>
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</thead>
<tbody>
<tr>
<td><strong>Inputs</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital pnp/npn</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>22</td>
<td>12</td>
<td>12</td>
<td>12</td>
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<td>12</td>
<td>10</td>
</tr>
<tr>
<td>HSC/Shaft-Encoder/Max Freq. Measurer</td>
<td>3 10kHz 32-bit</td>
<td>3 10kHz 32-bit</td>
<td>1 10kHz 32-bit</td>
<td>3 10kHz 32-bit</td>
<td>2 10kHz 32-bit</td>
<td>2 10kHz 32-bit</td>
<td>3 10kHz 32-bit</td>
<td>2 10kHz 32-bit</td>
<td>1 10kHz 32-bit</td>
<td>1 10kHz 32-bit</td>
</tr>
<tr>
<td>Analog</td>
<td>1 10-bit 0-10V, 0-20mA 4-20mA</td>
<td>2 10-bit 0-10V, 0-20mA 4-20mA</td>
<td>2 10-bit 0-10V, 0-20mA 4-20mA</td>
<td>6 10-bit, 2 0-10V 0-20mA, 4-20mA 4-20mA</td>
<td>2 10-bit 0-10V, 0-20mA 4-20mA</td>
<td>None</td>
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<td>None</td>
<td>None</td>
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<td>Temperature Measurement</td>
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<tr>
<td><strong>Outputs</strong></td>
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</tr>
<tr>
<td>Digital</td>
<td>6 relay</td>
<td>6 relay</td>
<td>6 relay</td>
<td>12 relay</td>
<td>12 pnp</td>
<td>16 pnp</td>
<td>12 pnp</td>
<td>12 pnp</td>
<td>10 pnp</td>
<td>8 relay</td>
</tr>
<tr>
<td>High-Speed Outputs/PWM</td>
<td>2, first 2 outputs can function as HSO, 0.5kHz maximum</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Analog</td>
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<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>None</td>
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<tr>
<td><strong>I/O Expansions</strong></td>
<td></td>
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</tr>
<tr>
<td>Local or Remote I/Os may be added via expansion port or via CANbus</td>
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</tr>
</tbody>
</table>

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### 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, datalog, etc.), up to 256K fixed data

---

### Operator Panel

- **Type**: Graphic STN LCD
- **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 | 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

---

The Vision120™ met and exceeded all our requirements in one compact, cost-effective package.

David Wong, President of NEXTChem
**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

---

### V200™ Series

**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**

#### 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

#### I/O Options

<table>
<thead>
<tr>
<th>Article Number</th>
<th>V230™</th>
<th>V260™</th>
<th>V280™</th>
<th>V290™</th>
<th>V530™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snap-in I/O Modules</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I/O Expansion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Memory</td>
<td>1MB</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Scan Time</td>
<td>30µsec per 1K of typical application</td>
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<td></td>
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<tr>
<td>Operands</td>
<td>4096 coils, 2048 registers, 256 long integers (32 bit), 64 double words (32 bit unsigned), 24 memory floats, 192 timers, 24 counters</td>
<td></td>
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<tr>
<td>Data Tables</td>
<td>120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K fixed data</td>
<td></td>
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<table>
<thead>
<tr>
<th>Operator Panel</th>
<th>V230™</th>
<th>V260™</th>
<th>V280™</th>
<th>V290™</th>
<th>V530™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Resolution &amp; Size</td>
<td>STN LCD</td>
<td>Negative blue, STN LCD</td>
<td>Black &amp; White FSTN LCD</td>
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<tr>
<td>Touch Screen</td>
<td>None</td>
<td>None</td>
<td>Resistive, Analog</td>
<td></td>
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</tr>
<tr>
<td>Keys</td>
<td>24 user labeled keys</td>
<td>33 user labeled keys</td>
<td>27 user labeled keys</td>
<td>Virtual keyboard</td>
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<table>
<thead>
<tr>
<th>General</th>
<th></th>
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<tbody>
<tr>
<td>Power Supply</td>
<td>12/24VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery Back-up</td>
<td>7 years typical at 25°C, back-up for all memory sections and real-time clock (RTC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>IP65/NEMA4X (when panel mounted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>CE, UL</td>
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</tr>
</tbody>
</table>

Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics.
OEMs Testimonials

“\n
The Vision570™ is a fantastic and feature rich product! The Unitronics support team is like having a personal, well versed friend on hand.\n
\n
"\n
Medical
Mar Cor Purification, Inc
Pure water and disinfection products\n
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.\n
"\n
Food and Beverage
ZOOTECHNIKA Machinery Ltd
Milk Pasteurizers Use Vision350™ for Machine Control and Logging Process Parameters\n
The main advantages of using Unitronics were ease of use, very fast application development and of course excellent performance/price ratio.\n
"\n
Packaging Machinery
Kolman d.o.o.
Packaging Machinery OEM Uses Vision570™ and Vision560™ as Primary Control\n
21
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" - 480 x 272, 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
- 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**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Inputs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSC/Shaft-Encoder/Max. Freq. Measurer&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>1 32-bit 30 kHz</td>
<td>3 32-bit 30 kHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analog</td>
<td>2: 10-bit, 0-10v, 0-20mA, 4-20mA</td>
<td>2: 10-bit, 0-10v, 0-20mA, 4-20mA</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>8 relay</td>
<td>8 pnp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Speed Outputs/PWM</td>
<td>None</td>
<td>Outputs 0 to 6 can be used as PWM outputs 0.5 kHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analog</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I/O Expansion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote I/Os via CANbus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Memory</td>
<td></td>
<td>Application Logic: 112kb • Images: 1 MB • Fonts: 512 k</td>
<td>Application Logic: 112kb • Images: 2 MB • Fonts: 512 k</td>
<td>Application Logic: 112kb • Images: 5 MB • Fonts: 512 k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scan Time</td>
<td></td>
<td>15µS per 1K of typical application</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Operands</td>
<td>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</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Tables</td>
<td>32K dynamic RAM data (recipe parameters, datalogs, etc.), up to 16K fixed data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD Card (Micro)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhanced Features</td>
<td></td>
<td>Trends: graph any value and display on HMI • String Library: instantly switch HMI language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operator Panel</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type &amp; Colors</td>
<td></td>
<td>TFT LCD • 65,536 colors • 16 bit resolution • Brightness - Adjustable via touchscreen or software</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td></td>
<td>Resolution: 320 x 240 pixels • Size: 3.5” (QVGA)</td>
<td>Resolution: 480 x 272 pixels • Size: 4.3”</td>
<td>Resolution: 800 x 480 pixels • Size: 7”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touchscreen</td>
<td>Resistive, Analog</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keys</td>
<td>Displays virtual keyboard when the application requires data entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>24VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>7 years typical at 25°C, battery back-up for RTC and system data, including variable data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clock</td>
<td>Real-time clock functions (date and time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>NEMA4X/IP66/IP65 (when panel mounted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>CE, UL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> When selecting NPN for the digital inputs, the 2 Analog inputs cannot be used.

<sup>2</sup> Certain inputs can function as high-speed counters, shaft-encoder inputs, or normal digital inputs.

<sup>3</sup> This specification depends on cable length.

---

It really enhanced our product’s look and flexibility.

Ralph Hannmann,
President of Alyan Pump Company
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
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

The following table lists the specifications and features of the Jazz PLC models JZ20 and JZ10. The table includes fields for article number, classic panel, flat panel, inputs, outputs, program ladder code memory, memory operands, operator panel, general, communication, and add-on modules and accessories.

Add-on modules and accessories:

- COM Port kit
- Ethernet Communication Port
- Program Cloner module
- Keypad Slide kit

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

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

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

4. 2 inputs have added functionality. Both may be wired, in a group, as either digital npn or pnp. These models comprise a total of 10/20 inputs (model-dependent). 6/16 (model-dependent) of these inputs 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).

5. +/− 10V, 4-20mA

6. 0-20mA, 4-20mA

7. 0-10V

8. 20 kHZ, 16-bit

9. 10-bit, 0-10V

10. PT100/TC

11. NEMA4X/IP65 (when panel mounted)

12. CE, UL

13. Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics

14. - supported separately

15. Customized by Jazz admissions

16. Copy applications from PLC to PLC

17. Article No.: MJ20-ET1 sold separately

18. Article No.: MJ20-JZ-SL1

19. 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
### Inputs

<table>
<thead>
<tr>
<th>Digital pnp/npn</th>
<th>HSC/Shaft-Encoder/Max. Freq. Measurer</th>
<th>Analog</th>
<th>Temperature Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>10</td>
<td>None</td>
</tr>
<tr>
<td>3 10kHz, 16-bit</td>
<td>3 10kHz, 16-bit</td>
<td>1 10kHz</td>
<td>None</td>
</tr>
<tr>
<td>1 10-bit, 0-10V, 0-20mA</td>
<td>2 10-bit, 0-10V, 0-20mA</td>
<td>6 10-bit, 0-10V, 0-20mA</td>
<td>None</td>
</tr>
<tr>
<td>4-20mA</td>
<td></td>
<td>4-20mA</td>
<td>None</td>
</tr>
<tr>
<td>30kHz</td>
<td></td>
<td>16-bit</td>
<td>None</td>
</tr>
</tbody>
</table>

### Outputs

<table>
<thead>
<tr>
<th>Digital</th>
<th>High-Speed Outputs/PWM</th>
<th>Analog</th>
<th>Temperature Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 relay</td>
<td>6 relay</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>6 relay</td>
<td>6 relay</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>12 relay</td>
<td>12 relay</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>12 pnp</td>
<td>12 pnp</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>16 pnp</td>
<td>16 pnp</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>12 pnp</td>
<td>12 pnp</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>10 pnp</td>
<td>10 pnp</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>8 relay</td>
<td>8 relay</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### I/O Expansion

I/Os may be added via expansion port

### Program

<table>
<thead>
<tr>
<th>Application Memory</th>
<th>Memory Operands</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>36K (virtual)</td>
<td>256 coils, 256 registers, 64 timers</td>
<td>1024 integers, (indirect access)</td>
</tr>
</tbody>
</table>

### Operator Panel

<table>
<thead>
<tr>
<th>Type</th>
<th>Display Size</th>
<th>Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>STN LCD</td>
<td>2 lines x 16 characters</td>
<td>15 keys</td>
</tr>
</tbody>
</table>

### General

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Battery</th>
<th>Clock (RTC)</th>
<th>Environment</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/24VDC</td>
<td>7 years typical at 25°C, battery back-up for all memory sections and RTC</td>
<td>Real-time clock functions (date and time)</td>
<td>IP65/NEMA4X (when panel mounted)</td>
<td>CE, UL</td>
</tr>
</tbody>
</table>

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.

5 Additional models (M90 models) are listed on the Unitronics web site.

---

<table>
<thead>
<tr>
<th>Article Number</th>
<th>M91-2-R1</th>
<th>M91-2-R2C</th>
<th>M91-2-R6C</th>
<th>M91-2-R34</th>
<th>M91-2-T1</th>
<th>M91-2-T38</th>
<th>M91-2-T2C</th>
<th>M91-2-UN2</th>
<th>M91-2-UA2</th>
<th>M91-2-RA22</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Analog Input</td>
<td>2 Analog Inputs</td>
<td>6 Analog Inputs</td>
<td>2 D/A Inputs</td>
<td>12 Transistor Outputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>10 Digital</td>
</tr>
<tr>
<td></td>
<td>6 Relay Outputs</td>
<td>6 Relay Outputs</td>
<td>6 Relay Outputs</td>
<td>12 Relay Outputs</td>
<td>12 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
<td>8 Relay</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Analog Input</td>
<td>2 Analog Inputs</td>
<td>6 Analog Inputs</td>
<td>2 D/A Inputs</td>
<td>12 Transistor Outputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 Relay Outputs</td>
<td>6 Relay Outputs</td>
<td>6 Relay Outputs</td>
<td>12 Relay Outputs</td>
<td>12 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22 Digital Inputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>12 Transistor Outputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 Transistor Outputs</td>
<td>12 Transistor Outputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Digital</td>
<td>12 Digital</td>
<td>22 Digital</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Transistor Outputs</td>
<td>12 Transistor Outputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Digital</td>
<td>12 Digital</td>
<td>22 Digital</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Transistor Outputs</td>
<td>12 Transistor Outputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Digital</td>
<td>12 Digital</td>
<td>22 Digital</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>Inputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Transistor Outputs</td>
<td>12 Transistor Outputs</td>
<td>10 Digital</td>
<td>2 D/A/PT100/TC Inputs</td>
<td>10 Transistor Outputs</td>
<td>Outputs</td>
<td>10 Digital</td>
<td>2 D/A/TC Inputs</td>
<td>2 Analog Outputs</td>
</tr>
</tbody>
</table>

---

* Additional models (M90 models) are listed on the Unitronics web site.
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.

Digital Modules

<table>
<thead>
<tr>
<th>IO-D18-T08</th>
<th>IO-D18-RO4</th>
<th>IO-D18-RO8</th>
<th>EX90-D18-RO8</th>
<th>IO-D16</th>
</tr>
</thead>
<tbody>
<tr>
<td>24VDC*</td>
<td>8 Digital Inputs, pnp/npn, including one High-speed Counter</td>
<td>8 Digital Inputs, pnp/npn, including one High-speed Counter</td>
<td>8 Digital Inputs, pnp/npn, including one High-speed Counter</td>
<td>24VDC*</td>
</tr>
<tr>
<td>8 Digital Inputs, pnp/npn, including one High-speed Counter</td>
<td>4 Relay Outputs</td>
<td>8 Relay Outputs</td>
<td>8 Relay Outputs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IO-T016</th>
<th>IO-RO8</th>
<th>IO-RO16</th>
<th>IO-D18ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>24VDC</td>
<td>16 pnp Transistor Outputs</td>
<td>24VDC* (power supply)</td>
<td>110/220 VAC</td>
</tr>
<tr>
<td>8 Relay Outputs</td>
<td>16 Relay Outputs</td>
<td>8 AC Inputs</td>
<td></td>
</tr>
</tbody>
</table>

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

High-speed Remote I/O Module

EXF-RC15

| 24VDC | 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

<table>
<thead>
<tr>
<th>IO-A14-A02</th>
<th>IO-PT400</th>
<th>IO-PT4K</th>
</tr>
</thead>
<tbody>
<tr>
<td>24VDC (power supply)</td>
<td>4 PT100/NI100/NI120 Inputs</td>
<td>4 PT1000/NI1000 Inputs</td>
</tr>
<tr>
<td>4 Analog Inputs 12-bit</td>
<td>Range PT100: -50°C - +600°C, ±0.5°C</td>
<td>Range PT1000: -50°C - +600°C, ±1.5°C</td>
</tr>
<tr>
<td>12-bit</td>
<td>Range NI100: -50°C - +232°C, ±0.5°C</td>
<td>Range NI1000: -50°C - +232°C, ±1.5°C</td>
</tr>
<tr>
<td>2 Analog Outputs, 12-bit</td>
<td>Range NI120: -50°C - +172°C, ±0.5°C</td>
<td>Range NI1200: -50°C - +172°C, ±1.5°C</td>
</tr>
<tr>
<td>2:pnp/npn</td>
<td>12-bit</td>
<td>12-bit</td>
</tr>
</tbody>
</table>

I/O Expansion Module Adapters

<table>
<thead>
<tr>
<th>EX-A2X1</th>
<th>EX-RC11.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local I/O module adapter. Galvanic isolation. Up to 8 modules may be connected to a single PLC. Supports both 12/24 VDC</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>

Functions as both I/O module and adapter*

<table>
<thead>
<tr>
<th>IO-D16A3-R016</th>
<th>IO-D16A3-T016</th>
<th>EX-D16A3-R08</th>
<th>EX-D16A3-T016</th>
</tr>
</thead>
<tbody>
<tr>
<td>24VDC, 16 Digital Inputs pnp/npn, including two High-speed Counters, 3 Analog Inputs, 10-bit, 0-20mA, 4-20mA, 16 Relay Outputs</td>
<td>24VDC, 16 Digital Inputs pnp/npn, including two High-speed Counters, 3 Analog Inputs, 10-bit, 0-20mA, 4-20mA, 15 pnp + 1 pnp/npn Transistor Outputs including 1 HSO</td>
<td>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</td>
<td>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</td>
</tr>
</tbody>
</table>

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

### Snap-in I/O Modules

**Digital Inputs (isolated)**
- **V200-18-E1B**
  - 16 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E2B**
  - 16 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E3XB**
  - 18 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E4XB**
  - 18 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E5B**
  - 18 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E6B**
  - 18 npn/pnp (including 2 Shaft-encoder inputs)
- **V200-18-E62B**
  - 30 npn/pnp (including 2 Shaft-encoder inputs)

**Analog Inputs**
- **V200-18-E1B**
  - 3 10-bit 0-10V, 0-20mA 4-20mA
- **V200-18-E2B**
  - 2 10-bit 0-10V, 0-20mA 4-20mA
- **V200-18-E3XB**
  - 4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or TC/PT100
- **V200-18-E4XB**
  - 4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or TC/PT100
- **V200-18-E5B**
  - 3 10-bit 0-10V, 0-20mA 4-20mA
- **V200-18-E6B**
  - 3 10-bit 0-10V, 0-20mA 4-20mA & 2 14-bit 0-10V, 0-20mA 4-20mA and/or TC/PT100
- **V200-18-E62B**
  - 2 10-bit 0-10V, 0-20mA 4-20mA

**Temperature Measurement**
- **V200-18-E1B**
  - None
- **V200-18-E2B**
  - None
- **V200-18-E3XB**
  - None
- **V200-18-E4XB**
  - None
- **V200-18-E5B**
  - None
- **V200-18-E6B**
  - None
- **V200-18-E62B**
  - None

**Digital Outputs (isolated)**
- **V200-18-E1B**
  - 4 npn/pnp (including 2 High-speed outputs)
- **V200-18-E2B**
  - 4 npn/pnp (including 2 High-speed outputs)
- **V200-18-E3XB**
  - 2 npn/pnp High-speed
- **V200-18-E4XB**
  - 2 npn/pnp High-speed
- **V200-18-E5B**
  - 2 npn/pnp High-speed
- **V200-18-E6B**
  - 2 npn/pnp High-speed
- **V200-18-E62B**
  - 2 npn/pnp High-speed

**Relay Outputs (isolated)**
- **V200-18-E1B**
  - 10
- **V200-18-E2B**
  - 10
- **V200-18-E3XB**
  - 15
- **V200-18-E4XB**
  - 15
- **V200-18-E5B**
  - 15
- **V200-18-E6B**
  - 15
- **V200-18-E62B**
  - 15

**Analog Outputs**
- **V200-18-E1B**
  - None
- **V200-18-E2B**
  - None
- **V200-18-E3XB**
  - None
- **V200-18-E4XB**
  - None
- **V200-18-E5B**
  - None
- **V200-18-E6B**
  - None
- **V200-18-E62B**
  - None

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

### Additional COM Modules

Enhance Vision’s communication capabilities

**Vision Model**
- **SAMBA**
  - **Ethernet**
    - V100-17-ET2
    - V100-17-ET2
  - **RS232/RS485**
    - V1100-17-RS4
    - V1100-17-RS4
  - **Isolated RS232/RS485**
    - V1100-17-RS4X
    - V1100-17-RS4X
  - **CANbus**
    - V1100-17-CAN
    - V1100-17-CAN
  - **Profibus**
    - None
    - None

- **V130, V350**
  - **Ethernet**
    - V1100-17-ET2
    - V1100-17-ET2
  - **RS232/RS485**
    - V1100-17-RS4
    - V1100-17-RS4
  - **Isolated RS232/RS485**
    - V1100-17-RS4X
    - V1100-17-RS4X
  - **CANbus**
    - V1100-17-CAN
    - V1100-17-CAN
  - **Profibus**
    - V1100-17-PB1

- **V200, V500, V1040, V1210**
  - **Ethernet**
    - V2100-19-ET2
    - V2100-19-ET2
  - **RS232/RS485**
    - V2100-19-RS4
    - V2100-19-RS4
  - **Isolated RS232/RS485**
    - V2100-19-RS4-X
    - V2100-19-RS4-X
  - **CANbus**
    - None
    - None

### DIN-rail Power Supplies

<table>
<thead>
<tr>
<th>UAP-24V24W</th>
<th>UAP-24V60W</th>
<th>UAP-24V96W</th>
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<tr>
<td>24W 24V 1A</td>
<td>60W 24V 2.5A</td>
<td>96W 24V 4A</td>
</tr>
</tbody>
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1 V200/V500/V1040/V1210: 1 optional port for serial or Ethernet
2 V130/V350: 1 optional port for serial or Ethernet & 1 optional port for CANbus/Profibus
3 Not yet UL certified

Extended temperature cards, operational temperature: -30ºC to 60ºC

**GSM-KIT-41J**

Kit including Enfora GSM1318 Q. Band Modem
Configure your Network
Collect & communicate data. Display, access, and remotely control your application.

Ethernet
- SNMP
- OPC
- HTTP

RS485
- MODBUS RTU
- CANopen Slave
- MODBUS RTU Slave
- RS485

CANbus
- CANopen
- SAE J1939
- UniCAN
- CANopen Slave
- J1939 Device
- Remote High Speed I/O

SMS
- GSM/GPRS Modem

Web Server
- SNMP v1
- SCADA
- CANbus
- Web Server SNM P v1 SCADA

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