UNITRONICS®

ONE
INTEGRATED SOLUTION
for Control & Automation

- Full Range of PLCs
- Motion Control
- Powerful Software
- Cloud Platform

UniCloud By UNITRONICS

PLC
+HMI
ALL IN ONE™

About Unitronics

Unitronics designs, manufactures, and markets advanced control and automation solutions. Our extensive offering includes a complete line of PLCs with integrated HMI, full line of VFDs, a broad array of I/Os and complementary devices, as well as programming software for all aspects of control, motion, HMI, and communications.

Unitronics PLCs range from micro-PLC + HMI units for simple machine control, to complex controllers with advanced functions, a variety of onboard IOs and multiple communication options – including support for Industry 4.0 (smart factory) technology.

Easy to use, efficient, and affordable, our products have been automating processes, systems and standalone applications since 1989. Today, our field-proven products automate hundreds of thousands of installations in diverse fields, including petrochemicals, automotive, food processing, plastics & textiles, energy & environment, water & waste water management – anywhere automated processes are required.

Unitronics is represented by more than 160 distributors in over 55 countries around the globe, providing our customers with local support in their local languages.

Unitronics Benefits:

- **Full Product Range:** PLC + HMI controllers, I/Os, VFDs, Servos and IO-Link to meet all application needs. All software and utilities are provided at no additional charge
- **All-in-One Software:** Configure and program PLC, HMI, VFD, Servos, and all other components in one easy environment
- **Industry 4.0:** SNMP, FTP, e-mail, SMS, GPRS/GSM, Remote Access via VNC Client / built-in Webserver, SQL & MQTT
- **Rich Features:** Auto-tuned PID, datalogging, Recipes, HMI Trends & Gauges, Alarms, multi-level passwords, multi-language support, Datacom via CANopen, CAN Layer2, MODBUS, EtherNetIP, IO-Link, and more
- **Outstanding Support:** Unitronics exceeds the industry standard for customer care. You benefit from personalized, expert sales and technical support without fees or tiers
- **Customized Solutions:** Products tailored-made according to specifications

NEW! **UniCloud:** Complete No-Code IIoT Platform, secured in line with ISO Standards

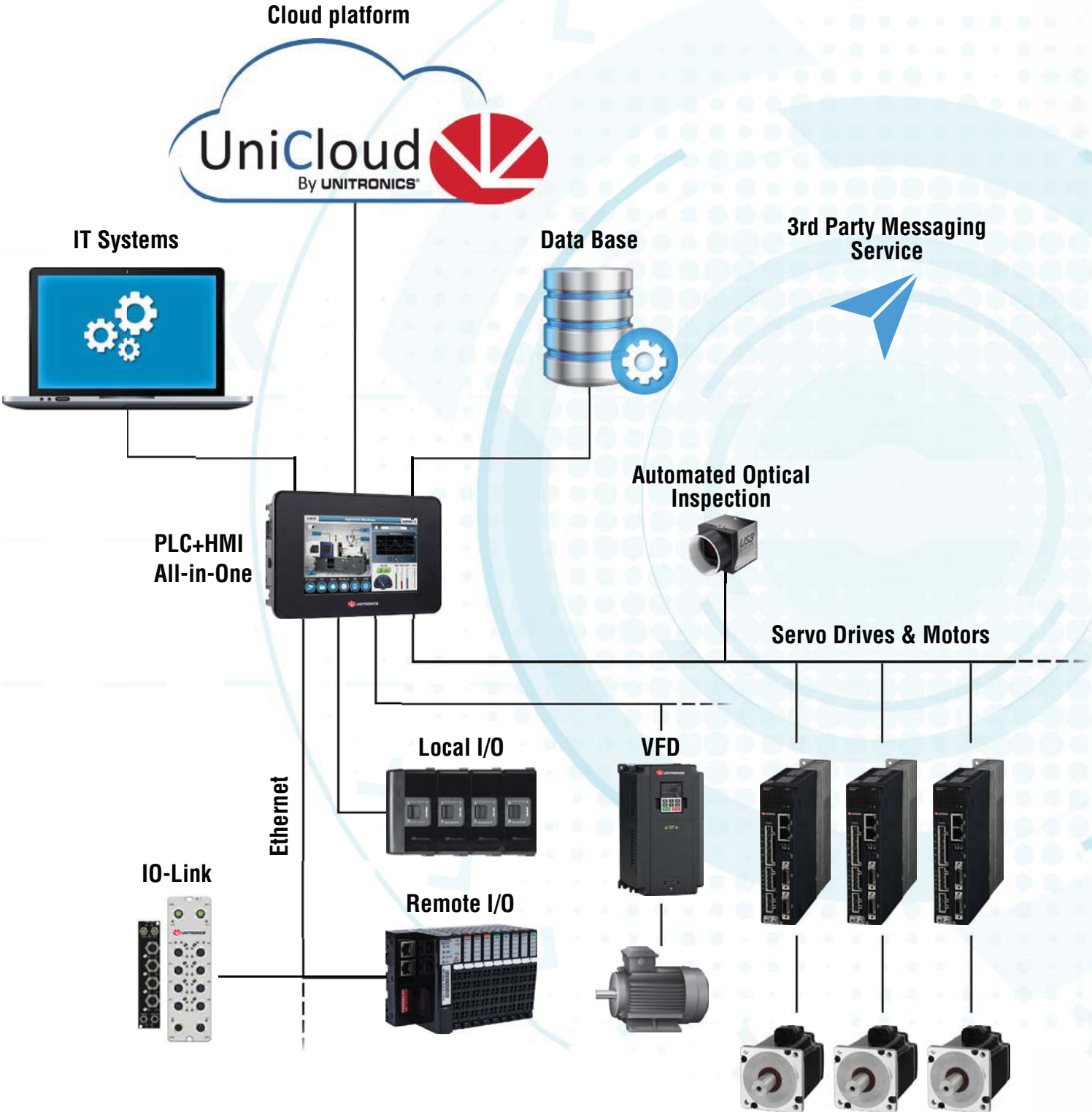
Table of Contents

This catalog provides a general overview of Unitronics products. Before you place an order, please check the complete technical specifications for each product, located on the Unitronics website.

E & OE

One Integrated Solution for

One Integrated Solution means that all components work together perfectly,every time. Unitronics' hardware—PLC, HMI, I/Os, VFDs, AC Servos, and more—is backed by All-In-One software. Efficiently program all aspects of configuration, control, motion, HMI/Web design—easily integrate UniCloud and avoid dealing with multiple suppliers.



3rd Party Messanger Logo: Image by www.freepik.com

Control & Automation

ONE INTEGRATED SOLUTION for Control & Automation

Controllers: a Complete Range

PLC + HMI, PLC, Cloud Controllers

- UniStream® Series - For easy execution of challenging projects
- UniStream® Cloud - Controllers with embedded cloud services
- Vision™ series - For advanced machines & automation projects
- Samba™ Series - Ideal for small machines that require graphic display
- Jazz® - Great for simple control—text-only HMI + keypad

Motion Control: Full lines of VFDs & Servos

Motion made Simple

- Automatic, transparent setup
- Built-in Diagnostics
- Communications: effortless, seamless with Unitronics products
- VFDs: high performance, cost-effective
- Servos: Servo made Simple--Ready-made Motion code, PLCopen

All-in-One Programming Software

At no extra charge

- Program Ladder Logic
- Design HMI & Web pages
- Motion—perform all tasks
- Hardware & Communication Configuration
- One Powerful Programming Environment

No-code IIoT Cloud Platform: UniCloud

Designed for Machine Builders

- Increase Profit: analyze data to reduce costs
- Secure
- Simple - No knowledge of IT needed
- Get up and running within 30 minutes

UniCloud By UNITRONICS

UniCloud

Complete No-Code IIoT Cloud

Designed specifically for OEMs & Machine Builders

‘Go Cloud’ Under 30 Minutes

Build a working, live, fully-functional dashboard that harvests, analyzes, and displays data—in less than 30 minutes.

Use Your Data To Increase Profits

Gain full control of your data, without relying on programmers or IT/Cloud professionals.

UniCloud is that simple: Do-It-Yourself

- Monitor & improve processes
- Reduce operational and maintenance costs
- Predict failures and minimize unplanned slowdowns & shutdowns
- Integrate—easily--with any device over MODBUS protocol

Platform

SECURED

UniCloud's architecture is designed with multilayered security at its backbone.
Encrypted, 2FA, ISO Certified: ISO27001, ISO270017.

NO CODE

No programming, IT knowledge, or Cloud expertise needed. UniCloud has it all—built-in cloud infrastructure, easy user interfaces & incredible functionality.

INCREASE PROFIT

Monitor & improve processes, while reducing operational and maintenance costs. Predict failures, minimize unplanned slowdowns and shutdowns.

CUSTOMIZE

Display data your way—customize data display with UniCloud's Wizards.

UniLogic®

All-in-One programming software for UniStream Controllers

Slash your development time by 50%

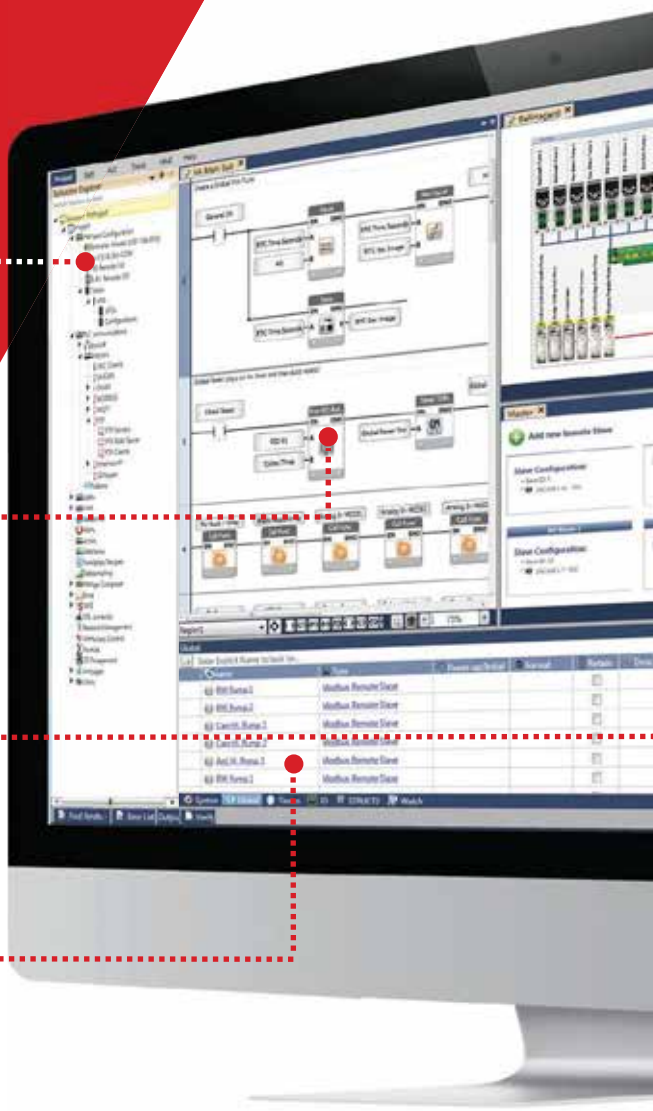
Quickly setup, configure & commission PLCs, HMIs, AC Servos, VFDs & I/Os—program control, COM, Motion, HMI & Web and integrate UniCloud IIoT platform - in one software environment.

Motion
Ready-Made Motion code! Configure & Operate Unitronics Servos & VFDs – No programming needed

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

Context-sensitive
Toolbox for Ladder, HMI & Web Elements

Power from C
Structs & C Functions

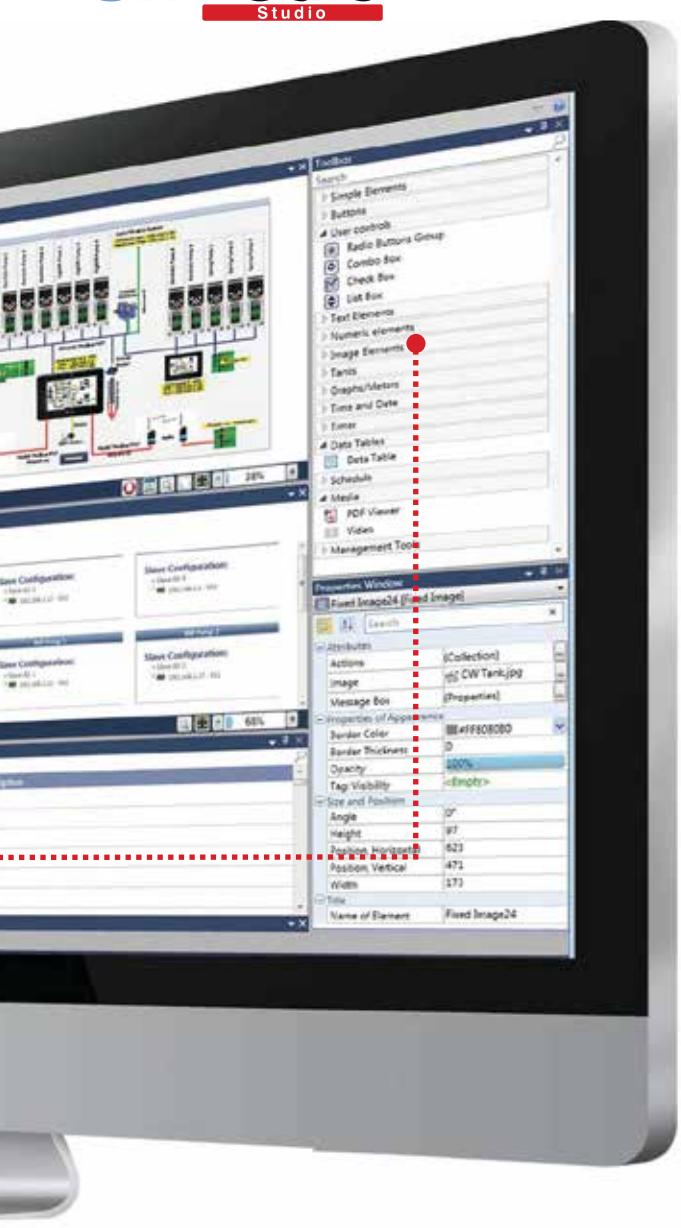


UniCloud: your no-code IIoT Cloud Platform
IIoT perfected for OEMs & Machine Builders—enter the Cloud without programmers or cloud professionals. Build customized **Dashboards** using secure, scalable UniCloud.

Motion: Servos, Motors
Instant, seamless hardware integration, totally transparent communications, automatic setup—plus free, Ready-Made Motion code. Get moving immediately – No programming needed.

Speed Ladder + "C" Power
Build your Ladder: drag/drop/snap elements into place, error-free. Write C code with the built-in editor. Create UDFBs for repetitive tasks.

UNILOGIC® Studio



Industrial Fieldbus Communications

Communication via Configuration. Incredibly fast & easy to implement, data communications are independent of Ladder. Plug & Play EtherNet/IP, EtherCAT, MODBUS TCP/RTU, CANopen, BACnet Server, Hart, and more.

Build-it-Once, then Reuse

Add UDFBs (User Defined Function Blocks), HMI screens, & Web Pages to the Library. Drag & drop anywhere—UniLogic does the tags. Use Library across projects.

Remote Access—plus Notifications to your Mobile

Access UniStream via any VNC application from PC, cellphone, or tablet. Built-in Web Server enables secure remote monitoring & data editing. Send event notifications via email and SMS text messages.

Communicate with any Device

Message Composer: datacom via any Ethernet, CANbus/serial 3rd -party protocol. Also supports **CAN Layer 2, FTP Client/ Server, SMS, email, GSM/GPRS.**

HMI & Web Pages—You, as Artist

Elegant design via drag & drop graphics, user controls, & widgets to design screens. Display running Trend graphs & Gauges, .pdfs, play audio, & stream video.

Power Data Tools

SQL Client: Connection to **MS SQL** Server or **MySQL** & Send Queries. **Data Sampler**: record time-sensitive dynamic data such as output values; display in Trend graphs.
Data Tables: log/manipulate data via Ladder, execute **Recipes.**

Built-in Alarm System

Accords with ISA 18.2 guidelines for Alarm systems. Operators can detect, analyze, & act on Alarms. Export log via FTP, send via email, or to a DOK.

Communication via Configuration

Incredibly fast & easy to implement, data communications are independent of Ladder. Plug & Play **MODBUS, CANopen, SNMP, EtherNet/IP.**

Languages: Italian to Chinese

UniLogic supports any language that you can type - including Asian languages such as Chinese, Japanese, and Korean. Instantly switch HMI language via user actions or program events.

MQTT, OPC-UA, SQL Connector, FTP, SNMP, REST

Use IT technologies to enable your Controller to bridge the gap between OT and IT—from the production floor up to the MES.

Routers and Modems

Use Unitronics routers and modems to enable secure access to your controllers.

Structs: Smart Tags

Build your Ladder: drag/drop/snap elements into place, error-free.
Write C code with the built-in editor. Create UDFBs for repetitive tasks.

UNISTREAM®

Powerful Award-winning Programmable Logic Controllers

For high-end automation projects, available in two All-in-One series:
Modular & Built-in.

UniStream® Modular

Create a custom control solution, perfectly matched to your requirements

Uniquely designed to enable you to create a customized controller in three steps: select an HMI panel, snap in a CPU, and add any I/O or communication modules necessary for your specific application.

Audio Out

MicroSD card

2 x USB (Host)

Mini USB (Programming)

2 x Ethernet TCP/IP

Built-in speaker

CPU

I/O & COM Modules

CANbus

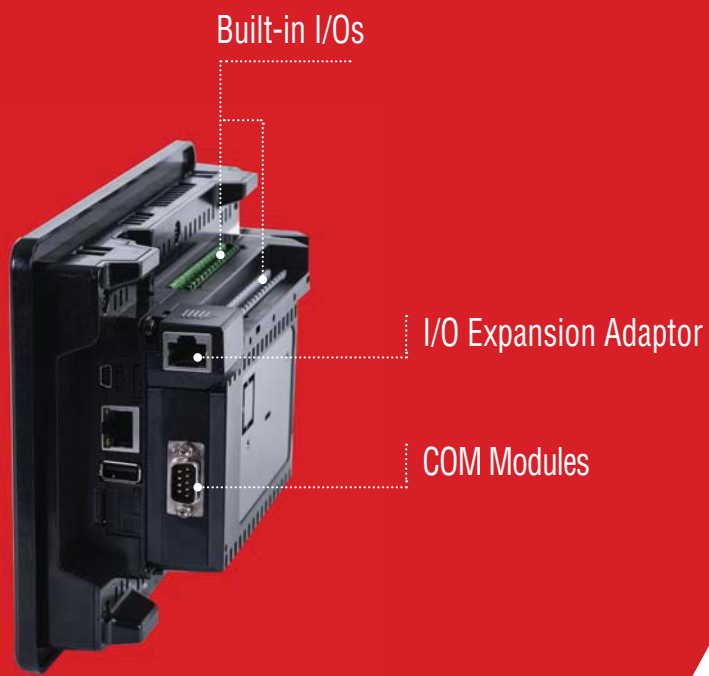
RS485

Remote Access - All Unitronics controllers are securely, remotely accessible. Access UniStream from your mobile or PC, via web browser, VNC, or UniCloud's secure tunnel utility.

UniStream® Built-in

Space-saving PLC that delivers the functionality to control complex machines

PLC+HMI+I/O built into a single, superbly compact unit in a range of built-in I/O configurations. Available in two versions: Built-in and Built-in Pro.



UNISTREAM® Modular

Features:

HMI

- Size: 7”, 10.4” or 15.6”
- High quality color touchscreen. UniStream 10.4” is also available with Multi-Touch screen
- Multi-language display
- Built-in Alarm Screens
- Media support: Video, Audio and PDF viewer
- Multi-level password protection – easy and fast

PLC

- I/O options include digital, analog, high speed, temperature, and weight measurement
- Expand locally: up to 2048 I/Os
- Expand remotely: via UniStream Ethernet-based I/O
- Auto-tune PID, up to 64 independent loops
- Recipes & data logging via data tables & sampling
- MicroSD card - log, backup, clone & more
- Function Blocks & Structs

Communication

Built-in ports

- 1 CANbus
- 2 Ethernet TCP/IP
- 1 RS485
- 2 USB host
- 1 Mini USB for programming

Add-on ports:

- Up to 8 RS232 (Using UAC-02RS2)
- Up to 4 RS232 + 4 RS485 (Using UAC-02RSC)

Fieldbus

- EtherNet/IP
- MODBUS: Serial & TCP/IP
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- Message Composer for 3rd party protocols

Advanced Communications

- OPC UA
- MQTT Client
- SNMP
- SQL Client
- REST API
- FTP server & client
- Web Server
- E-mail & SMS
- Remote access via VNC
- VNC Client
- 4G Routers

3 steps to an All-in-One controller: select HMI panel, add the powerful CPU, and snap on any I/O and COM modules. Expands up to 2048 I/Os.
Available with UniCloud Inside

UniStream® 7"

Available with Multi-Touch

UniStream® 10.4"

UniStream® 15.6"

		UniStream 7	UniStream 10.4	UniStream 15.6
Article Number	CPU	USC-P-B10		
	HMI panel*	USP-070-B08/ USP-070-B10	USP-104-B10**	USP-156-B10
I/O Options				
Total supported I/Os		2048 (See I/O Expansion Modules- page 20)		
Onboard I/O modules		Fit up to 3 slim or 2 wide Uni-I/O™ Modules[1]	Fit up to 5 slim or 3 wide Uni-I/O™ Modules[1]	
Local I/O Expansion		Use Local Expansion Adapters to add up to 80 slim or 50 wide Uni-I/O™ modules[1]		
Remote I/O via Ethernet		Use UniStream Ethernet-based Remote I/O adapters to add I/Os (See I/O Expansion Modules - page 24-25)		
Add-on COM modules		Supports up to 3 Uni-COM™ Modules[1]	Supports up to 4 Uni-COM™ Modules[1]	
Program				
Application Memory		8 MB		
HMI Panel				
Color Touchscreen		Resistive, Analog	Resistive, Analog / Multi-Touch	Resistive, Analog
Viewing Area Width x Height (mm)		USP-070-B08: 154.08 x 85.92 USP-070-B10: 152.4 x 91.44	211.2 x 158.4	344.23 x 193.53
Cut Out Width x Height (mm)		196.0 x 134.0	281.0 x 214.0	395.0 x 249.0
Resolution		800 x 480 (WVGA)	800 x 600 (SVGA)	1366 x 768
Keys		Virtual Keyboard		
Environment				
Protection		IP66 / NEMA4X when panel-mounted[2]		
Operating Temperature		-20°C to 55°C		0°C to 50°C
Standard		UL, CE, UKCA, EAC, UL Hazardous Locations, Class I, Division 2[4]		
General				
Battery		4 years typical at 25°C, battery back-up for memory and RTC		
Clock		Real-time clock functions (date and time)		
Power Supply		12/24VDC[3]		

* **For embedded UniCloud: replace the letter B with 'C'**

** For Multi-Touch version use article number: USP-104-M10

Local Expansion Adapters

UAG-XK125	Short Range Kit, 1.25m
UAG-XKP125	Short Range + embedded Power Supply Kit, 1.25m
UAG-XK300	Short Range Kit, 3m
UAG-XKP300	Short Range Kit + embedded Power Supply, 3m
UAG-XKPLXXXX	Long Range + embedded Power Supply, lengths: 6, 12, 15, 20, 30m

Uni-COM™ Communication Modules[1]

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

[1] Add-on Modules, I/O and COM: the total number of modules, both I/O and COM that you can snap onboard an HMI panel is limited by the size of the panel.
I/O modules are "Slim" &" Wide". 1 "Wide" I/O module = 1.5 "Slim" or COM module.

[2] UniStream complies with IP66 and NEMA4X only if audio-jack seal is installed. Refer to HMI panel installation guide.

[3] 12V applies to PLC power supply only, and not to the I/O.

[4] For a list of relevant models, contact Unitronics

UNISTREAM® Built-in

Powerful PLC in a superbly compact hardware profile: PLC+HMI+I/Os built into one single unit. Available in two versions: Built-in and Built-in Pro. Expands up to 2048 I/Os.

Available with UniCloud Inside

Features:

HMI

- Size: 5", 7", 10.1"
- High quality color touchscreen
- Multi-language display
- Built-in Alarm Screens
- Media support: Video*, Audio* and PDF viewer
- Multi-level password protection –easy and fast

PLC

- I/O options include digital, analog, high speed, temperature, and weight measurement
- Expand locally: up to 2048 I/Os
- Expand remotely: via UniStream Ethernet-based I/O
- Auto-tune PID, up to 64 independent loops
- Recipes & data logging via data tables & sampling
- MicroSD card - log, backup, clone & more
- Function Blocks & Structs

Communication

Built-in ports

- 1 Ethernet TCP/IP
- 1 USB host
- 1 Mini USB for programming

Add-on ports**

- 1 CANbus
- 1 RS485
- 1 RS232

Fieldbus

- EtherNet/IP
- MODBUS: Serial & TCP/IP
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- Message Composer for 3rd party protocols

Advanced Communications

- OPC UA
- MQTT Client
- SNMP
- SQL Client*
- REST API
- FTP server & client
- Web Server*
- E-mail & SMS
- Remote access via VNC
- VNC Client
- 4G Routers

UniStream® 5"

UniStream® 7"

UniStream® 10.1"

* Pro version only. Model numbers including B5 refer to Built-in, B10 to Built-in Pro.
** Up to 2 serial modules and one CANbus module.

	UniStream 5	UniStream 7	UniStream 10.1
Article Number	According to model (See UniStream Built-in & UniStream PLC I/O Configurations on page 20)		
I/O Options			
Total supported I/Os	2048		
Built-In I\O	According to model (See Built-in I/Os configurations - page 18)		
Local I/O Expansion	Use Local Expansion Adapters, according to model (See Uni-I/O table - page 20)[1]		
Remote I/O via Ethernet	Use UniStream Ethernet-based Remote I/O adapters to add I/Os (See Ethernet-based Remote I/O - page 24-25)		
Add-on COM Modules	Add up to 3 Uni-COM™ Modules[2]		
Program			
Application Memory	8 MB		
HMI Panel			
Color Touchscreen	Resistive, Analog		
Viewing Area Width X Height (mm)	108 X 64.8	154.08 X 85.92	222.72 X 125.28
Cut Out Width X Height (mm)	148.2 X 93.2	196 X 134	266.6 X 177.3
Resolution Width X Height (mm)	800 X 480 (WVGA)		1024 x 600 (WSVGA)
Keys	Virtual Keyboard		
Environment			
Protection	IP66 / NEMA4X when panel-mounted[2]		
Operating Temperature	-20°C to 55°C		
Standard	CE, UKCA, UL, EAC[3]		
General			
Battery	4 years typical at 25°C, battery back-up for memory and RTC		
Clock	Real-time clock functions (date and time)		

Local Expansion Adapters

UAG-CX-XKP125	UniStream CX IO Exp.Kit 1.25m
UAG-CX-XKP300	UniStream CX IO Exp.Kit 3m
UAG-CX-XKPLXXXX	Long Range + embedded Power Supply, lengths: 6, 12, 15, 20, 30m

Uni-COM™ Communication Modules

UAC-CX-01RS2	Uni-COM: 1xRS232 port
UAC-CX-01RS4	Uni-COM: 1xRS485 port
UAC-CX-01CAN	Uni-COM: 1xCANbus port

[1] UniStream I/O Expansion:
-The first unit plugged into the I/O expansion jack must be from the CX series Local Expansion Adapters.
-The CX end unit may be followed by Uni-I/O modules or by UAG-XKPxxx/UAG-XKPLxxxx adapters.
[2] Up to 2 serial modules and one CANbus module.
[3] For a list of relevant models, contact Unitronics.

UNISTREAM® PLC

Powerful, Robust Controller with:
Virtual HMI. Expands up to 2,048 I/Os. Build your PLC & HMI applications using the same programming software. Available in the following models: Standard (B5) and Pro (B10).
Available with UniCloud Inside

Features:

PLC

- I/O options include digital, analog, high speed, and temperature
- Expand locally: up to 2048 I/Os[1]
- Expand remotely: via UniStream Remote I/O
- Auto-tune PID, up to 64 independent loops[2]
- Recipes & data logging via data tables & sampling[1]
- MicroSD card - log, backup, clone & more[1]
- Function Blocks & Structs

Communication

Built-in ports

- 2 Ethernet TCP/IP
- 1 USB host
- 1 Mini USB for programming[1]

Add-on ports[3]

- 1 CANbus
- 1 RS485
- 1 RS232

Fieldbus

- EtherNet/IP
- MODBUS: Serial & TCP/IP
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- Message Composer for 3rd party protocols

Advanced Communications

- OPC UA
- MQTT Client
- SNMP
- SQL Client[4]
- REST API
- FTP server & client
- Web Server[4]
- E-mail & SMS
- Remote access via VNC
- VNC Client
- 4G Routers

Virtual HMI

- Full HMI functionality
- Support different resolution type
- Includes Drag & Drop graphic library
- Multi-language display
- Built-in Alarm Screens
- PDF viewer[1]
- Multi-level password protection – easy and fast

Supports UniStream® Display Panels

UniStream Display:

- Size: 5“ (USL-050-B05)
- Size: 7" (USL-070-B05)
- Size: 10.1" (USL-101-B05)
- Size: 15.6" (USL-156-B05)

UniStream Display

[1] Pro (B10) and Standard (B5) only.
[2] Basic (B3) supports up to 2 independent PID loops
[3] Up to two serial modules for B10/B5 and one for B3
[4] Pro (B10) only

	UniStream PLC
Article Number	According to model (See UniStream Built-in & UniStream PLC I/O Configurations on page 20)
I/O Options	
Total supported I/Os	Up to 2,048 I/O points
Built-in I/O	According to model (See Built-in I/Os table - page 19)
Onboard I/O modules	Directly connect up to 8 Uni-I/O modules to the PLC, on the DIN rail
Local I/O Expansion	Use Local Expansion Adapters (see table below), according to model (See Uni-I/O table- page 20)
Remote I/O via Ethernet	Use UniStream Ethernet-based Remote I/O adapters to add I/Os (See Ethernet-based Remote I/O - page 24-25)
Add-on COM modules	**Add up to 3 COM modules**[1]
Program	
Application Memory	8 MB
HMI	Virtual HMI: the PLC stores and runs both control and HMI user applications View and operate the virtual HMI via mobile, PC, and on UniStream Displays
Environment	
Protection	IP20, NEMA1
Operating Temperature	~20°C to 55°C
Standards	UL, CE, UKCE, EAC, UL Hazardous Locations, Class I, Division2[2]
General	
Battery	Model: 3V CR2032 Lithium battery 4 years typical at 25°C, battery back-up for memory and RTC
Clock	Real-time clock functions (date and time)

[1] Up to 2 serial modules and one CANbus module.
[2] Contact us for a List of relevant models.

Local Expansion Adapters

UAG-XK125	Short Range Kit, 1.25m
UAG-XKP125	Short Range + embedded Power Supply Kit, 1.25m
UAG-XK300	Short Range Kit, 3m
UAG-XKP300	Short Range Kit + embedded Power Supply, 3m
UAG-XKPLXXXX	Long Range + embedded Power Supply, lengths: 6, 12, 15, 20, 30m

Uni-COM™ Communication Modules[1]

UAC-CB-01RS2	Uni-COM: 1x RS232 port
UAC-CB-01RS4	Uni-COM: 1x RS485 port
UAC-CB-01CAN	Uni-COM: 1x CANbus port

I/O Configurations

UniStream Built-in

Article*	Summary	Inputs				Outputs				Operating Voltage
		Digital (Isolated)	HSC/Shaft encoder [1]	Analog	Temperature Inputs, RTD/TC	Transistor [2] (Isolated)	PWM [2]	Relay	Analog	
US5-Bx-B1 US7-Bx-B1 US10-Bx-B1	No built-in I/Os	-	-	-	-	-	-	-	-	12/24VDC
US5-Bx-TR22 US7-Bx-TR22 US10-Bx-TR22	**Inputs:** 10 Digital, 2 Analog **Outputs:** 2 Transistor, npn, Incl 2 PWN, 8 Relay	10 Sink/ Source	-	2 0-10V 0-20mA 4-20mA 12-bit	-	2 Sink (npn)	2 30kHz	8	-	24VDC
US5-Bx-T24 US7-Bx-T24 US10-Bx-T24	**Inputs:** 10 Digital, 2 Analog **Outputs:** 12 Transistor, pnp, Incl 2 PWN	10 Sink/ Source	-	2 0-10V 0-20mA 4-20mA 12-bit	-	12 Source (pnp)	2 3kHz	-	-	24VDC
US5-Bx-RA28 US7-Bx-RA28 US10-Bx-RA28	**Inputs:** 14 Digital Incl. 2 HSC, 2 Analog, 2 Temperature, **Outputs:** 8 Relay, 2 Analog	14 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA 14-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	-	-	8	2 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
US5-Bx-TA30 US7-Bx-TA30 US10-Bx-TA30	**Inputs:** 14 Digital Incl. 2 HSC, 2 Analog, 2 Temperature **Outputs:** 10 Transistor, pnp incl. 2 PWN, 2 Analog	14 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA 14-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	10 Source (pnp)	2 3kHz	-	2 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
US5-Bx-TA32 US7-Bx-TA32 US10-Bx-TA32	**Inputs:** 13 Digital Inputs, incl. 2 HSC, 6 Analog, 2 Temperature **Outputs:** 8 Transistor, pnp, incl. 2 PWM, 3 Analog	13 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA, 14-bit 4 (non-isolated) 0-10V, 0-20mA, 4-20mA, 12-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	8 Source (pnp)	2 3kHz	-	3 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
US5-Bx-R38 US7-Bx-R38 US10-Bx-R38	**Inputs:** 24 Digital Incl. 4 HSC, 2 Analog, **Outputs:** 12 Relay	24 Sink/ Source	4 90kHz 32-bit	2 0-10V 0-20mA 4-20mA 12-bit	-	-	-	12	-	24VDC
US5-Bx-T42 US7-Bx-T42 US10-Bx-T42	**Inputs:** 24 Digital Incl. 4 HSC, 2 Analog, **Outputs:** 16 Transistor, pnp, incl. 2 PWN	24 Sink/ Source	4 90kHz 32-bit	2 0-10V 0-20mA 4-20mA 12-bit	-	16 Source (pnp)	2 3kHz	-	-	24VDC

*** To order as a UniCloud Inside model: replace the letter B with 'C'-> US5-B5-B1 to US5-C5-B1**
To order a Pro unit replace Bx with B10 and for a Standard unit replace Bx with B5

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

[2] Note that the PWM outputs are included in the total number of transistor outputs.

UniStream PLC with Virtual HMI

Article*	Summary	Inputs				Outputs				Operating Voltage
		Digital (Isolated)	HSC/Shaft encoder [1]	Analog	Temperature Inputs, RTD/TC	Transistor [2] (Isolated)	PWM [2]	Relay	Analog	
USC-Bx-B1	No built-in I/Os	-	-	-	-	-	-	-	-	12/24VDC
USC-Bx-TR22	**Inputs:** 10 Digital, 2 Analog **Outputs:** 2 Transistor, npn, Incl 2 PWN, 8 Relay	10 Sink/ Source	-	2 0-10V 0-20mA 4-20mA 12-bit	-	2 Sink (npn)	2 30kHz	8	-	24VDC
USC-Bx-T24	**Inputs:** 10 Digital, 2 Analog **Outputs:** 12 Transistor, pnp, Incl 2 PWN	10 Sink/ Source	-	2 0-10V 0-20mA 4-20mA 12-bit	-	12 Source (pnp)	2 3kHz	-	-	24VDC
USC-Bx-RA28	**Inputs:** 14 Digital Incl. 2 HSC, 2 Analog, 2 Temperature, **Outputs:** 8 Relay, 2 Analog	14 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA 14-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	-	-	8	2 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
USC-Bx-TA30	**Inputs:** 14 Digital Incl. 2 HSC, 2 Analog, 2 Temperature **Outputs:** 10 Transistor, pnp incl. 2 PWN, 2 Analog	14 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA 14-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	10 Source (pnp)	2 3kHz	-	2 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
USC-Bx-TA32	**Inputs:** 13 Digital Inputs, incl. 2 HSC, 6 Analog, 2 Temperature **Outputs:** 8 Transistor, pnp, incl. 2 PWM, 3 Analog	13 Sink/ Source	2 90kHz 32-bit	2 (isolated) 0-10V, 0-20mA, 4-20mA, 14-bit 4 (non-isolated) 0-10V, 0-20mA, 4-20mA, 12-bit	2 (isolated) Thermocouple, PT100/ NI100/ NI120/ PT1000/ NI1000	8 Source (pnp)	2 3kHz	-	3 0-10V 12-bit, ±10V, 11-bit+sign 0-20mA, 4-20mA 12-bit	24VDC
USC-Bx-R38	**Inputs:** 24 Digital Incl. 4 HSC, 2 Analog, **Outputs:** 12 Relay	24 Sink/ Source	4 90kHz 32-bit	2 0-10V 0-20mA 4-20mA 12-bit	-	-	-	12	-	24VDC
USC-Bx-T42	**Inputs:** 24 Digital Incl. 4 HSC, 2 Analog, **Outputs:** 16 Transistor, pnp, incl. 2 PWN	24 Sink/ Source	4 90kHz 32-bit	2 0-10V 0-20mA 4-20mA 12-bit	-	16 Source (pnp)	2 3kHz	-	-	24VDC

Expand Locally via Uni-I/O™

UniStream Modular, Built-in & UniStream PLC - Expand up to 2048 I/O via Uni-I/O modules.

Article Number		Inputs				Outputs			
		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 (32-bit) 250kHz	-	-	8 Source (pnp)	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 (Isolated) (14-bit) 0-10V, ±10V, 0/4-20mA
	UIA-0402N	-	-	4 (13-bit) 0-10V, 0/4-20mA	-	-	-	-	2 (14-bit) 0-10V, ±10V, 0/4-20mA
	UIA-0800N	-	-	8 (13-bit) 0-10V, 0/4-20mA	-	-	-	-	-
	UIA-0800NH	-	-	8 0/4-20mA, With HART	-	-	-	-	-
	UIS-04PTN	-	-	-	4 PT100/NI100/ NI120	-	-	-	-
	UIS-04PTKN	-	-	-	4 PT1000/ NI1000/NI1200	-	-	-	-
	UIS-08TC	-	-	-	8 (Isolated) Thermocouple	-	-	-	-
Digital/ Analog	UIS-WCB1 [1,3]	10 Sink/Source	2 (32-bit) 10kHz	2 (Isolated) (14-bit) 0-10V, 0/4-20mA	2 (Isolated) Thermocouple, PT100/ NI100/NI120	2 [6] Sink (npn)	2 250kHz	8	2 (14-bit) 0-10V, ±10V, 0/4-20mA,
	UIS-WCB2 [1,3]	10 Sink/Source	2 (32-bit) 10kHz	2 (Isolated) (14-bit) 0-10V, 0/4-20mA	2 (Isolated) Thermocouple, PT100/ NI100/NI120	8 Source (pnp) 2 [6] Sink (npn)	2 250kHz (Sink only)	-	2 (14-bit) 0-10V, ±10V, 0/4-20mA,

Local Expansion Adapters - Modular & PLC with Virtual HMI

UAG-XK125	Short Range Kit, 1.25m
UAG-XKP125	Short Range + embedded Power Supply Kit, 1.25m
UAG-XK300	Short Range Kit, 3m
UAG-XKP300	Short Range Kit + embedded Power Supply, 3m
UAG-XKPLXXXX	Long Range + embedded Power Supply, lengths: 6, 12, 15, 20, 30m

Local Expansion Adapters - Built-in

UAG-CX-XKP125	UniStream CX IO Exp.Kit 1.25m
UAG-CX-XKP300	UniStream CX IO Exp.Kit 3m
UAG-CX-XKPLXXXX	Long Range + embedded Power Supply, lengths: 6, 12, 15, 20, 30m

[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

From OT to IT

Bridge the Gap with Unitronics

Secured in line with ISO Standards

UniCloud By UNITRONICS

No Code IIoT Platform
Dashboard for Assets

NEW!

IT

3RD PARTY MESSAGING SERVICE

FTP SNMP EMAIL SQL REST API WEB SERVER MQTT

Remote Access

Webserver VNC

OT

SCADA

Ethernet

Router

RS232

USB

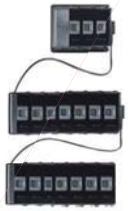
Local I/O Expansion

Ethernet

CANbus

RS485/232

Customised I/O Combinations via Local Expansion



CANopen J1939 UniCAN

CANopen Slaves

J1939 Devices

Remote High Speed I/O

ProfiBus Slave

Protocol Function MODBUS RTU

MODBUS RTU Slaves

Barcode Printer

Barcode Reader

EtherNet/IP MODBUS TCP Protocol Function

Ethernet IP (scanner & adaptor)

MODBUS IP Slaves

BACnet, KNX, M-bus via 3rd party gateway

Open Protocol

IO Link

NEW!

Remote IO

3rd Party Messanger Logo: Image by www.freepik.com

UNISTREAM® IO Link

Simple to integrate EtherNet/IP Remote IO for UniStream

Seamless Integration With a Single Click, IO-Link provides fast, seamless communication between sensors, actuators, and controllers. This two-way communication empowers you with unprecedented control, flexibility, and efficiency in your automation processes. With IO-Link, you are not just managing devices, you are orchestrating a symphony of precision.

All UniStream controllers support IO-Link via the EtherNet/IP communication protocol. Programming is easy: drag & drop configuration, assign IP addresses, and you are done—no coding needed. Communications are completely transparent and seamless.

Any application can benefit from the simple architecture, easy setup, and straight-forward diagnostics that IO-Link provides—and with UniLogic, implementing IO-Links bi-directional data transfer between controller, sensors, and actuators is a matter of simple drag & drop configuration.

Enhanced Device Interoperability

IO-Link standardizes communication, allowing IO-Link sensors and actuators from different manufacturers to work together, seamlessly. The popularity of IO-Link means that there is a very broad range of available devices— giving you the freedom to pick and choose the best components for your application.

Reduced Wiring Complexity

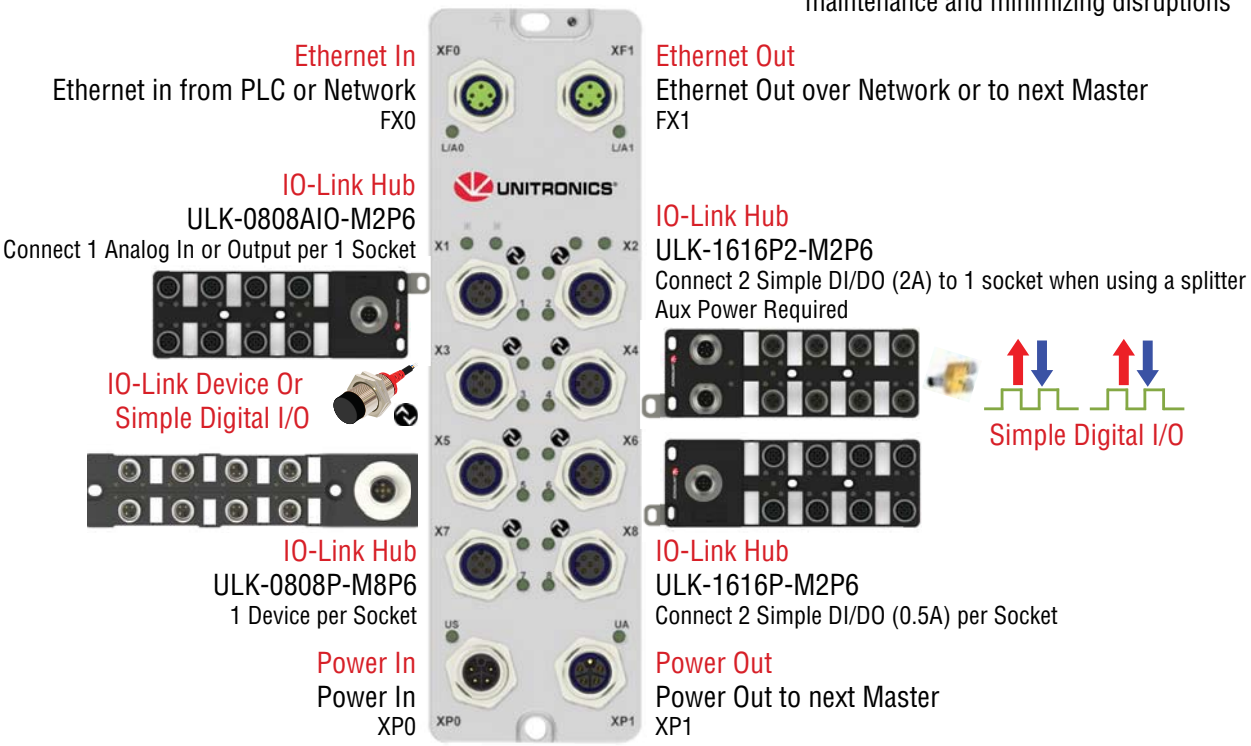
Efficient cabling and the ability to connect multiple devices to a single port significantly simplifies your installation process and reduces wiring costs.

Effortless Device Parameterization

Say goodbye to manual configurations. IO-Link with Unitronics automates the setup process, reducing downtime and ensuring optimal device performance.

Simplified Troubleshooting

Detailed diagnostics at your fingertips. Pinpoint issues with ease, speeding up maintenance and minimizing disruptions



IO-Link Master - ULK-EIP-8AP6 or Similar

IO Link Master Modules

Class A Master IO-Link ports can be used for an IO-Link device, or 1 Simple Digital Input or 1 Simple Digital Output (0.5A)

Class B Master IO-Link ports provide up to 2A additional power to an IO-Link device as required. No Simple Digital Input or Simple Digital Output functionality provided.

Part Number	UniStream™ IO-Link Master Modules - Up to 8 Modules supported on B5 & B10 Ranges
ULK-EIP-4A4BP6	IO-Link Master over Ethernet/IP protocol, 8 IO-Link ports, 4 x Class A + 4 x Class B, M12, IP67
ULK-EIP-4AP6	IO-Link Master over Ethernet/IP protocol, 4 x IO-Link ports, Class A, M12, IP67
ULK-EIP-8AP6	IO-Link Master over Ethernet/IP protocol, 8 x IO-Link ports, Class A, M12, IP67

IO Link Hub Modules

Provides 2 Simple Digital Input or Simple Digital Output or 1 Analog Input or Analog Output per socket.

Part Number	UniStream™ IO-Link Hub Moduels - Supported up to 20m from Master
ULK-0808AIO-M2P6	IO-Link Hub, 8 Analog I/O (configurable 0-10V/4-20mA), M12, IP67
ULK-0808P-M8P6	IO-Link Hub, 8 Digital I/O (configurable), M8, IP67
ULK-1616P2-M2P6	IO-Link Hub, 16 Digital I/O (configurable), M12, 2A, IP67
ULK-1616P-M2P6	IO-Link Hub, 16 Digital I/O (configurable), M12, IP67

IO Link Accessories

Part Number	UniStream™ IO-Link Accessories
ADP-M12AM4-2M12F4	M12 HUBS splitter for M12 sensors/actuators for easy wiring, M12, A-coded, Male, 4 pins, 2 X M12 A-coded, Female, 4 pins
ADP-M12AM4-2M8F3	M12 HUBS splitter for M8 sensors/actuators easy wiring, M12, A-coded, Male, 4 pins, 2 X M8 A-coded, Female, 3 pins
ADP-ULKCFG	IO-Link Device Configurator, USB

Part Number	UniStream™ IO-Link Cables application	Main Side	Secondary Side	Length
CBL-M8AM3-OP-2	M8 HUB for M8 sensors/actuators	M8, A-coded, Male, 3 pins	Open lead wires	2m
CBL-M8AM3-OP-5	M8 HUB for M8 sensors/actuators	M8, A-coded, Male, 3 pins	Open lead wires	5m
CBL-M12DM4-RJ-2	Ethernet, PLC/Switch to Master 8 ports	M12, D-coded, Male, 4 pins	RJ45 Ethernet	2m
CBL-M12DM4-RJ-5	Ethernet, PLC/Switch to Master 8 ports	M12, D-coded, Male, 4 pins	RJ45 Ethernet	5m
CBL-M12AM4-OP-2	M12 master/hub ports to 4pin open lead	M12, A-coded, Male, 4 pins	Open lead wires	2m
CBL-M12AM4-OP-5	M12 master/hub ports to 4pin open lead	M12, A-coded, Male, 4 pins	Open lead wires	5m
CBL-M12LF5-OP-2	Power to Master 8 ports	M12, L-coded, Female, 5 pins	Open lead wires	2m
CBL-M12LF5-OP-5	Power to Master 8 ports	M12, L-coded, Female, 5 pins	Open lead wires	5m
CBL-M8AM4-RJ-2	Ethernet, PLC/Switch to Master 4 ports	M8, A-coded, Male, 4 pins	RJ45 Ethernet	2m
CBL-M8AM4-RJ-5	Ethernet, PLC/Switch to Master 4 ports	M8, A-coded, Male, 4 pins	RJ45 Ethernet	5m
CBL-M8AF4-OP-2	Power to Master 4 ports	M8, A-coded, Female, 4 pins	Open lead wires	2m
CBL-M8AF4-OP-5	Power to Master 4 ports	M8, A-coded, Female, 4 pins	Open lead wires	5m
CBL-M8AM4-OP-2	Power output from Master 4 ports to general purpose	M8, A-coded, Male, 4 pins	Open lead wires	2m
CBL-M8AM4-OP-5	Power output from Master 4 ports to general purpose	M8, A-coded, Male, 4 pins	Open lead wires	5m
CBL-M8AM4-M8AM4-2	Ethernet, daisy chain to 2 to 4 ports Masters	M8, A-coded, Male, 4 pins	M8, A-coded, Male, 4 pins	2m
CBL-M8AM4-M8AM4-5	Ethernet, daisy chain to 2 to 4 ports Masters	M8, A-coded, Male, 4 pins	M8, A-coded, Male, 4 pins	5m
CBL-M8AM4-M8AF4-2	Power, daisy chain to 2 to 4 ports Masters	M8, A-coded, Male, 4 pins	M8, A-coded, Female, 4 pins	2m
CBL-M8AM4-M8AF4-5	Power, daisy chain to 2 to 4 ports Masters	M8, A-coded, Male, 4 pins	M8, A-coded, Female, 4 pins	5m
CBL-M12DM4-M12DM4-2	Ethernet, daisy chain to 2 to 8 ports Masters	M12, D-coded, Male, 4 pins	M12, D-coded, Male, 4 pins	2m
CBL-M12DM4-M12DM4-5	Ethernet, daisy chain to 2 to 8 ports Masters	M12, D-coded, Male, 4 pins	M12, D-coded, Male, 4 pins	5m
CBL-M12LM5-M12LF5-2	Power, daisy chain to 2 to 8 ports Masters	M12, L-coded, Male, 5 pins	M12, L-coded, Female, 5 pins	2m
CBL-M12LM5-M12LF5-5	Power, daisy chain to 2 to 8 ports Masters	M12, L-coded, Male, 5 pins	M12, L-coded, Female, 5 pins	5m
CBL-A-M12AM4-M12AF4-2	M12 Class A IO-Link Device to Master 4/8 ports	M12, A-coded, Male, 4 pins	M12, A-coded, Female, 4 pins	2m
CBL-A-M12AM4-M12AF4-5	M12 Class A IO-Link Device to Master 4/8 ports	M12, A-coded, Male, 4 pins	M12, A-coded, Female, 4 pins	5m
CBL-B-M12AM5-M12AF5-2	M12 Class B IO-Link Device to Master 8 ports	M12, A-coded, Male, 5 pins	M12, A-coded, Female, 5 pins	2m
CBL-B-M12AM5-M12AF5-5	M12 Class B IO-Link Device to Master 8 ports	M12, A-coded, Male, 5 pins	M12, A-coded, Female, 5 pins	5m

Remote I/O via Ethernet

UniStream Modular, Built-in, PLC with Virtual HMI, & Vision Ranges

- Ethernet based
- Up to 63 I/O modules per adapter
- Slim modules - only 12mm
- 16--bit Analog Resolution
- Operating temperature:-40°C to 70°C

Remote Ethernet I/O Adapter

Article Number	Description	Connector Type
URB-TCP	UniStream Remote IO Ethernet Adapter (MODBUS TCP/UDP)	10 RTB
URB-TCP2	UniStream Remote IO Adapter (6 Modules)	10 RTB
URB-EC1	UniStream EtherCAT IO Adapter (16 Modules)	10 RTB

Inputs

Article Number	Description			Connector Type
Digital Inputs				
URD-0400B	4 Digital Inputs	AC	120 VAC	10 RTB
URD-0400C	4 Digital Inputs	AC	240 VAC	10 RTB
URD-0800	8 Digital Inputs	Sink/Source	24 VDC	10 RTB
URD-1600-8	16 Digital Inputs	Sink/Source	24 VDC	18 RTB
URD-3200-4	32 Digital Inputs	Sink/Source	24 VDC	40 Pin IDC
Encoder / High Speed Counters				
URD-0200D	2 High Speed/Encoder Inputs	600 KHz	5 VDC	10 RTB
URD-0200E	2 High Speed/Encoder Inputs	600 KHz	24 VDC	10 RTB
Analog Inputs 12 Bit				
URA-0400O	4 Analog Inputs	Current	12 Bit	10 RTB
URA-0400P	4 Analog Inputs	Voltage	12 Bit	10 RTB
URA-0800O	8 Analog Inputs	Current	12 Bit	10 RTB
URA-0800P	8 Analog Inputs	Voltage	12 Bit	10 RTB
URA-1600O-8	16 Analog Inputs	Current	12 Bit	18 RTB
URA-1600P-8	16 Analog Inputs	Voltage	12 Bit	18 RTB
Analog Inputs 16 Bit				
URA-0400T	4 Analog Inputs	Current	16 Bit	10 RTB
URA-0400U	4 Analog Inputs	Voltage	16 Bit	10 RTB
URA-0800T	8 Analog Inputs	Current	16 Bit	10 RTB
URA-0800U	8 Analog Inputs	Voltage	16 Bit	10 RTB
URA-1600T-8	16 Analog Inputs	Current	16 Bit	18 RTB
URA-1600U-8	16 Analog Inputs	Voltage	16 Bit	18 RTB
Temperature				
URS-04RT	4 RTD / Resistance Input	Resistance Input, PT100, NI100, etc.		10 RTB
URS-04TC	4 Thermocouple / mV Input	J, K, T, S, etc. 10mV Input		10 RTB
URS-08RT-2	8 RTD / Resistance Input	Resistance Input, PT100, NI100, etc.		20 Pin IDC
URS-08TC-2	8 Thermocouple / mV Input	J, K, T, S, etc. 10mV Input		20 Pin IDC
Loadcell & Strain				
URS-02LC-8	2 Loadcells Input	VRef, 5V, +/- 150mV, 24 Bit		18 RTB

Outputs

Article Number	Description			Connector Type
Digital Outputs				
URD-0008CH	8 Digital Outputs	pnp / Source	24 VDC / 0.5 A	10 RTB
URD-0008CI	8 Digital Outputs	pnp / Source	24 VDC / 2 A	10 RTB
URD-0008NH	8 Digital Outputs	npn / Sink	24 VDC / 0.5 A	10 RTB
URD-0008NI	8 Digital Outputs	npn / Sink	24 VDC / 2 A	10 RTB
URD-0016CG-8	16 Digital Outputs	pnp / Source	24 VDC / 0.3 A	18 RTB
URD-0016NG-8	16 Digital Outputs	npn / Sink	24 VDC / 0.3 A	18 RTB
URD-0032CG-4	32 Digital Outputs	pnp / Source	24 VDC / 0.3 A	40 Pin IDC
URD-0032NG-4	32 Digital Outputs	npn / Sink	24 VDC / 0.3 A	40 Pin IDC
Relay Outputs				
URD-0004RH	4 Relay Output	Potential Free	SPST / 2 A	10 RTB
URD-0004SK	4 Solid State Relay Outputs	Solid State Relay	240 VAC/DC / 0.5 A	10 RTB
URD-0004SM	4 Solid State Relay Outputs	Solid State Relay	110 VAC/DC / 1 A	10 RTB
URD-0004SN	4 Solid State Relay Outputs	Solid State Relay	24 VAC/DC / 2 A	10 RTB
Analog Outputs 12 Bit				
URA-0004W	4 Analog Outputs	Current	12 Bit	10 RTB
URA-0004X	4 Analog Outputs	Voltage	12 Bit	10 RTB
URA-0008W	8 Analog Outputs	Current	12 Bit	10 RTB
URA-0008X	8 Analog Outputs	Voltage	12 Bit	10 RTB
URA-0016X-8	16 Analog Outputs	Voltage	12 Bit	18 RTB
Analog Outputs 16 Bit				
URA-0004Y	4 Analog Outputs	Current	16 Bit	10 RTB
URA-0004Z	4 Analog Outputs	Voltage	16 Bit	10 RTB
URA-0008Y	8 Analog Outputs	Current	16 Bit	10 RTB
URA-0008Z	8 Analog Outputs	Voltage	16 Bit	10 RTB
URA-0016Z-8	16 Analog Outputs	Voltage	16 Bit	18 RTB
High Speed Outputs				
URD-02PU	2 Pulse Outputs	300 KhZ	Push/Pull / 24V / 0.5A	10 RTB
URD-02PW	2 PWM Outputs	5 KhZ	Push/Pull / 24V / 0.5A	10 RTB
URD-04PW	4 PWM Outputs	5 KhZ	Push/Pull / 24V / 0.5A	10 RTB

Power

Article Number	Description	Connector Type
URP-PS24V	Adapter Additional System Power Expension, 1A	10 RTB
URP-C0V0V	8 0VDC Potential Distribution	10 RTB
URP-C24V24V	8 24VDC Potential Distribution	10 RTB
URP-C0V24V	4 24VDC, 4 0VDC Potential Distribution	10 RTB
URP-PDIST	External Universal Power Distribution	10 RTB
URP-SHIELD	External Universal Shield Distribution	10 RTB

Spares

Article Number	Description	Connector Type
URB-END	Adapter End Module	N/A
URO-0105	10 Removable Terminal Block For I/O	10 RTB
URO-0106	18 Removable Terminal Block For I/O	18 RTB
URO-0101	10 Removable Terminal Block For Potential Distribution	10 RTB
URO-0102	10 Removable Terminal Block For External Power	10 RTB

Cyber Security Overview

ICS environments are increasingly targeted by cyberattacks, which can have significant consequences, including production disruptions, safety hazards, and financial losses.

Unitronics has developed a comprehensive approach to protecting its controllers intended to raise the level of cyber protection of automation projects and machines.

Equipment level - Basics

Stay Updated via http://www.unitronicsplc.com – Unitronics develops and improves its products throughout their life cycle. The company website contains the most up-to-date versions of both software and operating systems, which may include advances in Cyber protection (UniLogic Version 1.33.373 & VisiLogic Version 9.9.0 and above)

VisiLogic Specific (Vision and Samba)

Equipment level - Basics

Access Permissions and Passwords: Strictly control local and network access permissions to the controller and associated equipment.

Remote access permissions- Manage and define the remote access permissions according to system's and user needs in order to minimize unnecessary exposure. For example, the PCOM protocol (a built-in communication protocol for development and management) allows protection at various levels:

- Blocked Access: Ensure that controllers do not allow connection to this protocol until there is a need for viewing only.
- Operator: Viewing and updating data.
- Technician: Troubleshooting, changing controller settings, and updating versions

Communication Design

- Design the communication to reduce the usage of "SERVER" mode configured sockets
- Configure unused sockets in "Client" mode

Multifactor Authentication

Use SB 314 and SDW 10 to configure multifactor authentication to your Vision / Samba device. Follow the software help section for detailed instructions.

Network level - Secure Communication

Modbus Protection

Limit the Modbus master accessible address space by enabling SB 305 and setting SI 165-168 values according to the required address space. Follow the VisiLogic help section for more details.

ber Protection—Defending your Unitronics UniStream®, Vision™ and Samba™ series controllers

Network level - Secure Communication

Controller as Internet Client: If the controller must communicate with components or servers on the Internet, ensure that the controller is the client initiating the communication.

Connecting automation equipment to the Internet:

Ensure that all equipment is behind a Firewall and that there are no Firewall Rules exposing the LAN network to entry from the WAN network. (whether it is a cellular router or a wired network).

Verify that there are no Port Forwarding settings exposing automation equipment directly to the public network.To quickly and easily implement network-level protection, it is recommended to use UCR products, Unitronics' industrial router series that includes built-in Firewall and VPN functionality.

UniLogic Specific (UniStream)

Equipment level - Basics

Access Permissions and Passwords

- Strictly control access permissions to the controller and associated equipment.
- Change the PLC default passwords and store them according to accepted practice. Changing the default password and setting a new access password for the controller will prevent a casual user from connecting to the controller via UniLogic.

UniStream products support multiple layers of security and protection. The developer and user must implement the following functionalities according to system requirements:

- Set passwords for VNC via VNC Server Management.
- Set permissions for UniApps via Password Management.
- Set users and permissions for user screens via User Access Control.
- Set users and permissions for Web Server screens.
- It's mandatory to set authentication for FTP Server.

For systems where downloading the user application is done using Flash Drive or SD Card, care must be taken to set the various passwords in their designated places.

VisiLogic™

All-in-One programming software for Vision™ & Samba™ Controllers

A single, intuitive environment for all 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

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

Languages - String Library
Instantly switch HMI language via screen touch

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

Trend Graphs
Display dynamic values in real-time

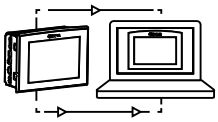
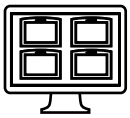
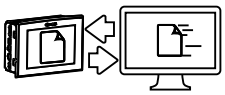
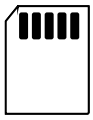
Web Server
Display and edit application values via browser

Software features vary according to controller model

Connect Vision, Samba & Jazz series
to UniCloud via Unitronics routers.
No cloud development or coding skills required!

UniCloud By UNITRONICS

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 PLCs 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 700™ / 1040™ / 1210™

Advanced PLC with a built-in 7"/10.4"/12.1" high-resolution color touch screen.
Snap in I/Os to expand up to 1000 I/Os.

Features:

HMI

- Size: 7", 10.4" and 12.1"
- High quality color touchscreen
- Multi-language display
- Built-in Alarm Screens

PLC

- I/O options include digital, analog, high speed, temperature, and weight measurement
- Expand up to 1000 I/Os
- Auto-tune PID, up to 24 independent loops
- Recipe programs and data logging via data tables
- MicroSD card - log, backup, clone & more
- Function Blocks

Communication

Built-in ports

- 1 Ethernet TCP/IP (V700 only)
- 1 Mini USB for programming
- 1 CANbus (V1040 & V1210 only)
- 1 Isolated RS485/RS232[1]
- 2 Isolated RS485/RS232[2]

Add-on ports

- 1 Serial/Ethernet
- 1 CANbus[1]

Protocols

- MODBUS TCP
- SNMP V1
- CANopen, J1939, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- FB Protocol: for any 3rd party protocol

Advanced Communications

- Web server
- E-mail & SMS
- Remote access utilities
- 3G Modem support

V700

V1040

V1210

[1] Applies only to V700
[2] Applies only to V1040 and V1210

Snap-in I/O

Plugs directly into the back of your PLC

	V700	V1040	V1210
Article Number	**V700-T2BJ**	**V1040-T20B**	**V1210-T20BJ**
Total supported I/Os	1000		
I/O Expansion	Snap-in I/O Modules plug directly into the back of the Vision unit (See Snap-in I/O Modules- page 37). Local or Remote I/Os may be added via expansion port or via CANbus (See I/O Expansion Modules- page 36).		
Local /O Expansion	Use Local Expansion Adapters to add up to 8 modules		
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os[1]		
Program			
Application Memory	Application Logic: 2MB • Images: 32MB • Fonts: 1MB		
Scan Time	9µsec per 1K of typical application		
Memory Operands	8192 coils, 4096 registers, 512 long integers (32 bit), 256 double words (32 bit unsigned), 64 memory floats, 384 timers, 32 counters. Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words		
HMI Panel			
Color Touchscreen	Resistive, Analog		
Viewing Area Width X Height (mm)	154.08 x 85.92	210 x 157.5	246.8 x 185.3
Cut Out Width x Height (mm)	193 x 125	274 x 230	297 x 228.5
Resolution	800 x 480 (WVGA)	800 x 600 (SVGA)	
Keys	Virtual Keyboard	9 programmable function keys	Virtual Keyboard
Environment			
Protection	IP65 / NEMA4X when panel mounted		
Operating Temperature	0 to 50ºC		
Standards	UKCA, UL, CE, EAC, UL Hazardous Locations, Class I, Division2[2]		
General			
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC		
Clock	Real-time clock functions (date and time)		
Power Supply	12/24VDC[3]		

[1] EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m.
[2] For a list of relevant models, contact Unitronics.
[3] 12V applies to PLC power supply only, and not to the I/O.

VISION 570™ / 560™

Advanced PLC with a built-in 5.7" touch screen.
Snap in I/Os to expand up to 1000 I/Os.

Features:

HMI

- Size: 5.7"
- High quality color touchscreen
- Multi-language display
- Built-in Alarm Screens

PLC

- I/O options include digital, analog , high speed, temperature, and weight measurement
- Expand up to 1000 I/Os
- Auto-tune PID, up to 24 independent loops
- Recipe programs and data logging via data tables
- MicroSD/ SD card – log, backup, clone & more
- Function Blocks

V570

Communication

Built-in ports

- 1 Mini USB for programming in V570
- 1 CANbus
- 2 Isolated RS485/ RS232

Add-on ports

- 1 Serial/Ethernet

Protocols

- MODBUS TCP
- SNMP V1
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- FB Protocol: for any 3rd party protocol

Advanced Communications

- Web server
- E-mail & SMS
- 3G Modem support
- Remote access utilities

V560

	Vision 560	Vision 570
Article Number	**V560-T25B**	**V570-57-T20B-J**
I/O Options		
Total supported I/Os	1000	
I/O Expansion	Snap-in I/O Modules plug directly into the back of the Vision unit (See Snap-in I/O Modules- page 37). Local or Remote I/Os may be added via expansion port or via CANbus (See I/O Expansion Modules- page 36).	
Local I/O Expansion	Use Local Expansion Adapters to add up to 8 modules	
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os[1]	
Program		
Application Memory	Application Logic: 2MB • Images: 16MB • Fonts: 1MB	
Scan Time	9 µsec 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	
HMI Panel		
Color Touchscreen	Resistive, Analog	
Viewing Area Width x Height (mm)	115.2 x 86.4	
Cut Out Width x Height (mm)	209 x 126.0	182 x 124.5
Resolution	320 x 240 (QVGA)	
Keys	24 programmable keys Labeling options – function keys or customized	Virtual Keyboard
Environment		
Protection	IP66 / NEMA4X when panel mounted	
Operating Temperature	0 to 50°C	
Standards	UKCA, UL, CE, EAC2[2]	UKCA, UL, CE, EAC, UL Hazardous Locations, Class I, Division2[2]
General		
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC	
Clock	Real-time clock functions (date and time)	
Power Supply	12/24VDC[3]	

[1] EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m.
[2] For a list of relevant models, contact Unitronics.
[3] 12V applies to PLC power supply only, and not to the I/O.

VISION 350™ / 430™ / 130™

Advanced PLC controllers with built-in HMI panel. Includes built-in, expandable I/O configuration.

Features:

HMI

- Size: 3.5", 4.3" and 2.4"
- Vision 350, 430: High quality color touchscreen
  Vision 130: Monochrome
- Multi-language display
- Built-in Alarm Screens

PLC

- I/O options include digital, analog, high speed, temperature, and weight measurement
- V350 and V430: Expand up to 512 I/Os.
  V130: Expand up to 256 I/Os
- Auto-tune PID, up to 24 independent loops
- Recipe programs and data logging via data tables
- Micro SD card - log, backup, clone & more
- Function Blocks

Communication

Built-in ports

- 1 Mini USB for programming[1]
- 1 RS485/RS232

Add-on ports

- 1 Serial/Ethernet/Profibus
- 1 CANbus

Protocols

- MODBUS TCP
- SNMP V1
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- FB Protocol: for any 3rd party protocol

Advanced Communications

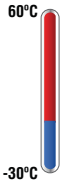
- Web server
- E-mail & SMS
- 4G Modem support
- Remote access utilities

V130

V350

V430

[1] Applies only to V350 and V430



Extended temperature unit available:
Operational temperature range between -30°C to 60°C, available for panel Article: V350-JS-TA24.
Extended temperature available for Ethernet (Article: V100-S-ET2) and CANbus (Article: V100-S-CAN).

	V350	V430	V130
Total supported I/Os	512		256
Built-in	According to model (See Built-in I/Os table below)		
I/O Expansion	Add Local I/O via expansion port • Add Remote I/Os via CANbus. (See I/O Expansion Modules- page 36)		
Local I/O Expansion	Use Local Expansion Adapters to add up to 8 modules		
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os[1]		
Program			
Application Memory	Application Logic: 1MB • Images: 8MB • Fonts: 512K	Application Logic: 1MB • Images: 12MB • Fonts: 512K	Application Logic: 488KB • Images: 128KB • Fonts: 128KB
Scan Time	15µ sec per 1K of typical application		20µ sec per 1K of typical application
Memory Operands	8192 coils, 4096 registers, 512 long integers (32 bit), 256 double words (32 bit unsigned), 64 memory floats, 384 timers, 32 counters.		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		
HMI Panel			
Color Touchscreen	Resistive, Analog		~
Viewing Area Width x Height (mm)	72 x 54.5	96.7 x 55.5	58 x 30.5
Cut Out Width x Height (mm)	92 x 92	122.5 x 91.5	92 x 92
Resolution	320 x 240 (QVGA)	480 x 272	128 x 64
Keys	5 programmable keys. Labeling options - function keys, arrows, or customized	5 programmable	20, including 10 user labeled keys (slide kit sold separately)
Environment			
Protection	NEMA4X, IP66 (when panel mounted)		
Operating Temperature	0°C to 50°C, For V350-JS-TA24: -30°C to 60°C[2]	0 to 50°C	
Standards	UL, CE, EAC, UL Hazardous Locations, Class I, Division 2[2]		
General			
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC		
Clock	Real-time clock functions (date and time)		

Vision 350™ / 430™ / 130™ models

[1] EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m.
[2] For a list of relevant models, contact Unitronics.

		Inputs [1]				Outputs				Operating Voltage
Article[5]	**Summary**	**Digital[2]**	**HSC/Shaft-encoder[2]**	**Analog**	**Temperature Measurement**	**Transistor[3]**	**PWM/HSO[3]**	**Relay**	**Analog**	
V350-J-B1 V430-J-B1 V130-J-B1	No onboard I/Os	—	—	—	—	—	—	—	—	12/24VDC
V350-J-TR20 V430-J-RH2 V130-J-TR20	**10** Digital, **2** D/A Inputs[1] **6** Relay Outputs 2 High-speed Transistor Outputs[6]	**12**	**3** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA 10-bit	—	**2** npn[6]	**2** (2 PTO) 200 kHz max[6]	**6**	—	24VDC
V350-J-R34 V430-J-R34 V130-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
V350-J-TR34 V430-J-TR34 V130-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**	None	24VDC
V350-J-TR6 V430-J-RH6 V130-J-TR6	**6** Digital, 2 D/A[1], **4** Analog Inputs **6** Relay Outputs 2 High-speed Transistor Outputs[6]	**8**	**1** 200kHz, 32-bit	**2** 0-10V, 0-20mA, 4-20mA and **4** 0-20mA, 4-20mA 10-bit	—	**2** npn[6]	**2** (2 PTO) 200 kHz max[6]	**6**	None	24VDC
V350-J-RA22 V430-J-RA22 V130-J-RA22	**8** Digital, **2** D/A, **2** TC/PT100/ Digital Inputs[1] **4** Relay, **2** Analog Outputs	**12**	**1** 200kHz, 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 V430-J-TRA22 V130-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
V350-J-T2 V430-J-T2 V130-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
V350-J-T38 V430-J-T38 V130-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
V350-J-TA24 V350-JS-TA24[4] V430-J-TA24 V130-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

[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.
[4] Extended temperature unit
[5] To order a classic V350 with a Bezel panel, switch the 'J' in the model number to '33', ex. V350, V350-33- TR20
[6] Refers only to V350 and V130 Models

I/O Expansion Modules & Accessories- Vision Series

Expand your system with local or remote I/O expansion modules.

Article	Description	Article	Description
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

Article		Input					Output				Operating Voltage
		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 Measurements	IO-AI4-AO2	-	-	4 0-10V, 0/4-20mA, 12-bit	-	-	-	-	-	2 ±10V, 0/4-20mA 12-bit	24VDC
	IO-PT400	-	-	-	4 PT100 / NI100 / NI120	-	-	-	-	-	-
	IO-PT4K	-	-	-	4 PT1000 / NI1000	-	-	-	-	-	-
	IO-AO6X	-	-	-	-	-	-	-	-	6 (Isolated) 0-10V, 0/4-20mA 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, 0/4-20mA, 14-bit		-	-	-	-	-	-
	IO-AI8	-	-	8 0-10V, 0/4-20mA, 14-bit	-	-	-	-	-	-	-
XL Digital / Analog	IO-D16A3-RO16	16 pnp / npn	2 30kHz 16 / 32-bit[8]	3 0/4-20mA, 10-bit	-	-	-	-	16	-	24VDC
	IO-D16A3-TO16	16 pnp / npn	1 30kHz 16 / 32-bit[8]	3 0/4-20mA, 10-bit	-	-	15 pnp, 1 pnp / npn	1 pnp 0.5kHz npn 50kHz	-	-	24VDC
	EX-D16A3-RO8[7]	16 pnp / npn	2 30kHz 16 / 32-bit[8]	3 0/4-20mA, 10-bit	-	-	-	-	8	-	24VDC
	EX-D16A3- TO16[7]	16 pnp / npn	1 30kHz 16 / 32-bit[8]	3 0/4-20mA, 10-bit	-	-	15 pnp, 1 pnp/npn	1 pnp 0.5kHz npn 50kHz	-	-	24VDC
High-speed Remote I/O Module	EXF-RC1[5 2,4,10]	9 pnp / npn	3 200kHz 32-bit	-	-	-	4 npn	4 (up to 3 PTO)	2	-	24VDC

Snap-in I/O Modules

Compatible with Vision models: V570, V700, V1040 and V1210.

Article	Input				Output				Operating Voltage
	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, 0/4-20mA, 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, 0/4-20mA, 10-bit	-	4 pnp/npn	2 pnp 0.5kHz npn 50kHz	10	2 0-10 V, 0/4-20mA, 12-bit	24VDC
V200-18-E3XB	18 pnp / npn	2 10kHz 32-bit	4 (Isolated) Thermocouple, PT100, 0-10V, 0/4-20mA, 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, 0/4-20mA, 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, 0/4-20mA, 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, 0/4-20mA, 14-bit 3 0-10V, 0/4-20mA, 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, 0/4-20mA, 14-bit 3 0-10 V, 0/4-20mA, 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, 0/4-20mA, 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

Vision & Samba COM Modules

Enhance Vision's communication capabilities

Model	Ethernet	Isolated RS232/RS485	CANbus	Profibus Slave
SAMBA	V100-17-ET2	V100-17-RS4X	V100-17-CAN	-
V130, V350, V430[1]	V100-17-ET2, V100-S-ET2[5]	V100-17-RS4X	V100-17-CAN, V100-S-CAN[5]	V100-17-PB1
V570, V1040, V1210[2]	V200-19-ET2	V200-19-RS4-X	Built-in	-
V700[4]	Built-in	V100-17-RS4X	V100-17-CAN	V100-17-PB1

[1] V130/V350/V430: Two ports may be added: 1 for Serial/Ethernet/Profibus and 1 for CANbus.
[2] V570/V1040/V1210: 1 port may be added: Serial/Ethernet.
[3] Extended temperature cards, operational temperature : -30ºC to 60ºC (-22ºF to 140ºF) - for V350-JS-TA24 only.
[4] V700 is supplied with an Built-in Ethernet port. One port may be added: serial/Profibus, and CANbus.
[5] Not yet UL certified

Footnotes for Page 36 - I/O Expansion Modules

[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
[3] The EXF-RC15 cannot be extended as regular I/O unit.
[4] High-speed inputs are configurable as either high-speed counter (HSC) or shaft-encoder.
[5] 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. Supported by Samba, Vision and UniStream series.
[6] 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.
[7] 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.
[8] Functions as local adapter. Can support up to 7 I/O modules.
[9] 16-bit or 32-bit, depending on the PLC.
[10] Also available as 12VDC – contact us for part number.
[11] One HSC may be configured as a shaft encoder.

SAMBA™

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

Features:

HMI

- Size: 3.5", 4.3", 7"
- High quality color touchscreen
- Multi-language display
- Built-in Alarm Screens

PLC

- I/O options include digital, analog, and high speed
- Auto-tune PID, up to 2 independent loops
- Recipe programs and data logging via data tables
- Function Blocks

Communication

Built-in ports

- 1 Mini USB for programming for 4.3" & 7"models, 1 RS232 for 3.5" model

Add-on ports

- 1 Serial/Ethernet
- 1 CANbus

Protocols

- MODBUS TCP
- SNMP V1
- CANopen, UniCAN, CANlayer2
- BACnet, KNX and M-Bus via gateway
- FB Protocol: for any 3rd party protocol

Advanced Communications

- E-mail & SMS
- 3G Modem support
- Remote access utilities

SAMBA 3.5"

SAMBA 4.3"

SAMBA 7"

	SAMBA		
Article Number	According to model (See Built-in I/O configurations table below)		
I/O Options			
Total supported I/Os	22		
Built-in	According to model (See Built-in I/Os table below)		
I/O Expansion	-		
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os[1]		
COM Modules	Fit up to 1 CANbus, 1 RS232/RS485[3] or 1 Ethernet		
Program			
Application Memory	Application Logic: 80KB • Images: 1.5 MB • Fonts: 320 KB	Application Logic: 192KB • Images: 3 MB • Fonts: 320 KB	Application Logic: 192KB • Images: 8 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 (32-bits unsigned)		
HMI Panel			
Color Touchscreen	Resistive, Analog		
Viewing Area Width x Height (mm)	72 x 54.5	96.7 x 55.5	153.7 x 86.7
Cut Out Width x Height (mm)	92 X 92	122.5 X 91.5	193 X 125
Resolution	320 X 240 (QVGA)	480 X 272	800 x 480 (WVGA)
Keys	Displays virtual keyboard when the application requires data entry		
Environment			
Protection	IP66 / NEMA4X when panel mounted		
Operating Temperature	0 to 50ºC		
Standards	UKCA, UL, CE, EAC, UL Hazardous Locations, Class I, Division 2[2]		
General			
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)		

[1] EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m. Refer to website for more information.

[2] For a list of relevant models, contact Unitronics.

Samba™ models - Built-in I/O configurations

		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	2 0-10V, 4-20mA, 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[2]	24VDC

[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 as affordable as a "smart relay". Full-function PLC combined with a textual HMI and keypad, with up to 40 built-in I/Os.

Features:

HMI

- Up to 60 user-designed screens
- Multi language

PLC

- I/O options include digital, analog, temperature and high speed
- Auto-tune PID, up to 4 independent loops (according to model*)

Communication

Built-in ports

- 1 Mini USB for programming

Add-on ports

- 1 Ethernet TCP/IP
- 1 RS232 / RS485

Protocols

- PC access via MODBUS or OPC server
- Supports MODBUS protocol (according to model)

Advanced Communications

- SMS via GSM
- 3G Modem support
- Remote access utilities

Accessories

- Program Cloner module- Copy applications from PLC to PLC
- Keypad Slide kit- Customize the Jazz keypad to your application

*Up to 4 loops: models UA24 / UN20 - 1 loop: all other models 1

Jazz®

Jazz Add-on ports and Accessories

COM Port kit	Ethernet Communication Port	Program Cloner module	Keypad Slide kit
RS232/RS485 (isolated) Article No.: JZ-RS4	Article No.: MJ20-ET1[1]	Article No.: MJ20-MEM1	Article No.: MJ20-JZ-SL1[1]

[1] Not yet UL certified

I/O Options	
Total supported I/Os	40
Built-in	According to model (See Built-in I/Os table below)
I/O Expansion	-
Program	
Memory Operands	256 coils, 256 registers, 64 timers
Ladder Memory	48k
HMI Panel	
Touch screen	-
Cut Out Width x Height (mm)	117 X 89
Resolution	2 lines, 16 characters
Keys	16 keys, including 10 user-labeled keys
Environment	
Protection	IP65 / NEMA4X when panel mounted
Operating Temperature	0 to 50ºC
Standards	UKCA, UL, CE, EAC
General	
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)

Jazz® models - Built-in I/O configurations

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

[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] To order a classic Jazz with a Bezel panel, omit the 'J' from the model number, ex. JZ20-R10

Unitronics 4G Routers

LTE & WiFi Industrial Cellular Routers

UCR-ST-B5 4G LTE & WiFi cellular router with 2 Ethernet ports and I/O

Hardware

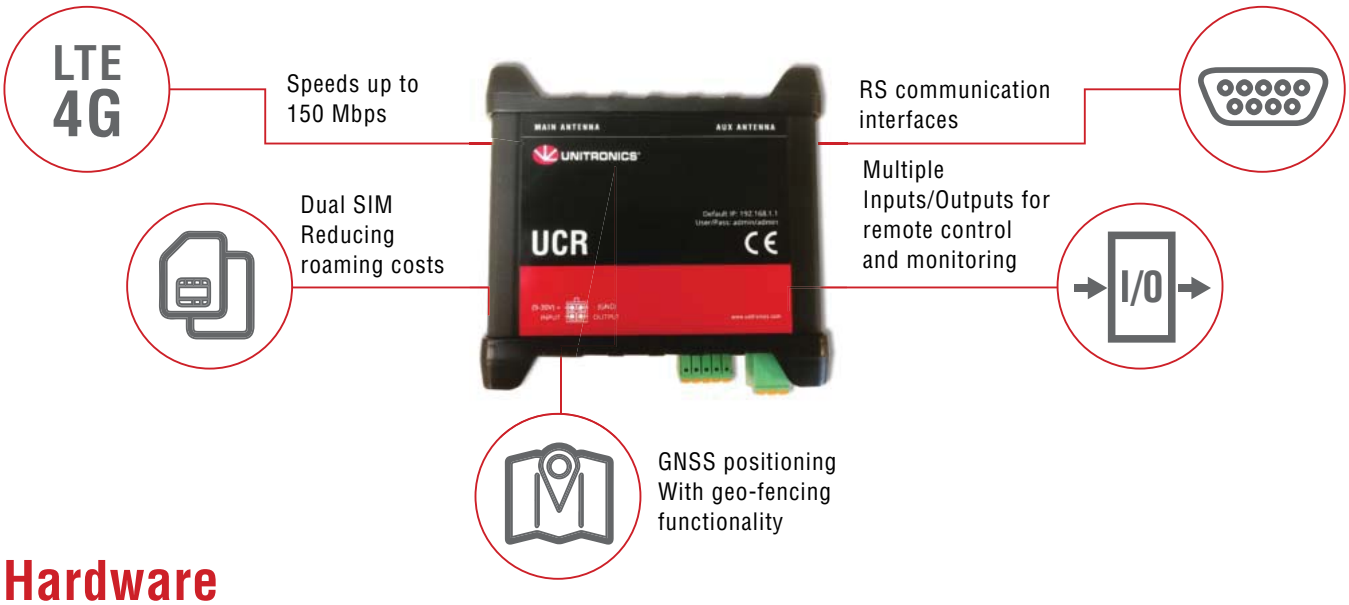
Mobile	4G (LTE) Cat 4 DL up to 150 Mbps, UL up to 50 Mbps; DC HSPA+; UMTS; TD SCDMA; EDGE; GPRS
CPU	Atheros Hornet, MIPS 24 Kc, 400 MHz
Memory	16 MB Flash, 64 MB DDR 2 RAM
Ethernet	2x 10 100 Ethernet ports: 1 x WAN (configurable as LAN), 1 x LAN
Power Supply	9 - 30 VDC, 4 pin DC connector
PoE (passive)	Passive PoE over spare pairs (available from HW revision 0007 and batch number 0010). Possibility to power up through LAN port, not compatible with IEEE 802.3 af and 802.3 at
Inputs/Outputs	1x Digital Input, 1 x Digital Open Collector Output on power connector
Connectors	1x 4 pin DC, 2 x Ethernet, 2 x Mobile SMA, 1 x WiFi RP SMA
SIM	1x external SIM holder
Status LEDs	2x connection type status, 5 x connection strength, 2 x LAN status, 1 x Power
Operating Temperature	-40 C to 75 C
Housing	Aluminum housing, plastic panels
Dimensions	83mm x 74 mm x 25 mm
Weight	125 g

Unitronics Software Features

Dynamic DNS
Multiple VPN Protocols
Wireless Access Point and Wireless Client
Firewall
I/O Control
MQTT Broker
Modbus TCP
NTP Server

New 4G/LTE & WiFi cellular Routers support embedded SMS functionality, RS232, RS485, GNSS (GPS), Micro-SD, USB interface, and on-board Digital & Analog I/Os.

UCR-ST-B8 Dual-SIM 4G LTE & WiFi cellular router with 4 Ethernet ports



Hardware

Mobile	4G (LTE) Cat 4 DL up to 150 Mbps, UL up to 50 Mbps; DC HSPA+; UMTS; TD SCDMA; EDGE;GPRS
CPU	Atheros Wasp, MIPS 74 Kc, 550 MHz
Memory	16MB Flash, 128 MB DDR 2 RAM
Ethernet	4x 10 100 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN ports
Power Supply	9 - 30 VDC, 4 pin DC connector
PoE (passive)	Passive PoE over spare pairs (available from HW revision 0007 and batch number 0010). Possibility to power up through LAN port, not compatible with IEEE 802.3 af and 802.3 at
Inputs/Outputs	3x Inputs (Digital, Digital galvanically isolated, Analog) + 1 x Digital Input on power connector
Connectors	1x 4 pin DC, 4 x Ethernet, 2 x Mobile SMA, 2 x WiFi RP SMA , 1 x GPS SMA, 1 x RS 232 , 1 x 6 pin
Memory Cards	microSD, Hinge Type slot
SIM	2x external SIM holders
Status LEDs	1x bi color connection status, 5 x connection strength, 4 x LAN status, 1 x Power
Operating Temperature	-40 C to 75 C
Housing	Aluminum housing, plastic panels
Dimensions	100mm x 110 mm x 50 mm
Weight	287 g

Unitronics Software Features

Dynamic DNS
Multiple VPN Protocols
Wireless Access Point and Wireless Client
GPS Geo-fencing
Firewall
I/O Control
MQTT Broker
Modbus TCP and Modbus RTU
NTP Server

Motion Control with Unitronics - Easy

Servo Drive and Motors and VFD

- **One Software:** Why struggle with multiple software tools to build your application?
  Unitronics provides one integrated software environment to control it all: PLC, HMI, Servo, VFD, and I/O
- **Automatic** communication setup: absolutely seamless
- **Minimal room for error:** UniLogic software analyzes mechanical properties
  and recommends safe values for your Servo and VFD Motion applications
- **Diagnostics:** View servo and VFD run-time performance via UniLogic's built-in
  powerful, high-speed scope
- **Single Parameter Tuning:** For both Servo and VFD
- **No coding needed!** Use Ready-Made Motion code to test your completed system
- **Embedded Diagnostic tools: no PC needed.** Tap a panel - even mobile - to:
  - Set motion parameters
  - Monitor Axis behavior and I/Os
  - Execute movements, such as Point-to-Point, Jog, and Homing
- **Ready-Made Motion code: simply open and edit as needed**

to set up. Painless to program.

ONE INTEGRATED SOLUTION for Control & Automation

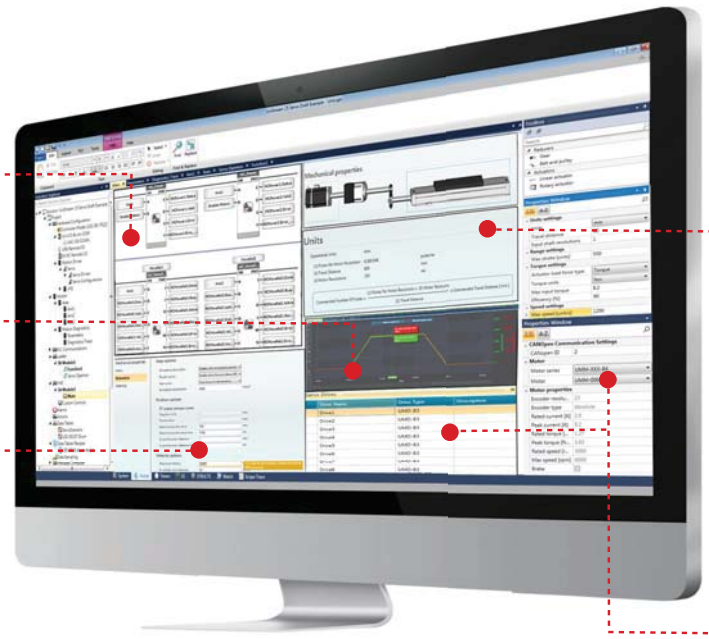
UniLogic® Studio Software:
Eliminates the complicated operations associated with Motion Control.

Powerful, award-winning software that enables you to do it all in one project:

- Configure all hardware: PLC, HMI, VFDs, Servo drives, motors, actuators
- Build PLC, HMI, and Motion applications
- Set up and implement all communications—including IIoT Cloud
- Remotely perform any task that doesn't require a screwdriver

Motion Control programming:
drag & drop function blocks

Add Axes, drag & drop actuators;
UniLogic automatically converts units



Test & view performance
via built-in powerful, high-speed scope

UniLogic **automatically defines the correct configuration & sets up** communications

Analyzes mechanical properties, and recommends safe values

Ready-Made Motion Code - Get moving immediately – No programming needed!

Download Ready-Made Motion code and tap a panel – even mobile – to:

- Set motion parameters
- Monitor Axis behavior and I/Os
- Execute movements, such as Point-to-Point, Jog, and Homing

Servo Drives & Motors by Unitronics

B5 & E5-S Series with CANopen and Ethercat

The new Servo series expands your Motion potential Via a wider power range - up to 7.5kW common DC bus, auto tuning, built-in STO (Safe Torque Off) and more.

Minimal Programming Needed!

”Servo Made Simple” is free, ready-made motion code to get you moving out of the box. All-in-one software enables easy synchronized multi-axis motion—and is the environment for all motion, communication, and hardware configuration.

Hardware

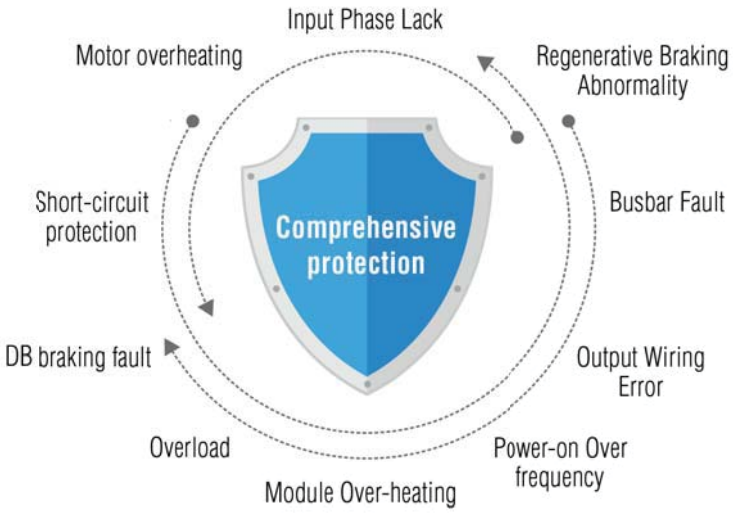
- Wide servo power range: 50W to 7.5kW
- Input Voltage Range: 220 - 480 VAC
- Drives: Single and Three-phase grid support
- Motors: Low and Medium Inertia motors
- 23-bit high-resolution absolute encoders
- Built-in communications: EhterCAT or CANopen
- Common DC bus saves energy
- Built-in breaking resistors [1]
- Comprehensive Protection functions: motor overheating, short-circuit protection, DB braking fault and more [2]
- Built-in STO [3]
- Zero stacking installation
- 350% momentary maximum torque [4]
- IP 65/67 motors [5]

[1] 50 ~ 400W products without built-in brake. 750W and above provides built-in braking resistor
[2] For additional protection functions, refer to the product user guide.
[3] Only for EtherCAT drives.
[4] Only for 50W-750W B5 motor series (Small capacity, High speed, Low inertia).
[5] Depends on motor series.

Software

- Control up to 8 Axes
- Motion Control Programming:
  Drag & Drop PLCopen function blocks
- Ready-made code: Embedded Diagnostics Application
- Auto-Tuning

Comprehensive Protection



- Servo Made Simple.

Product Designation Key

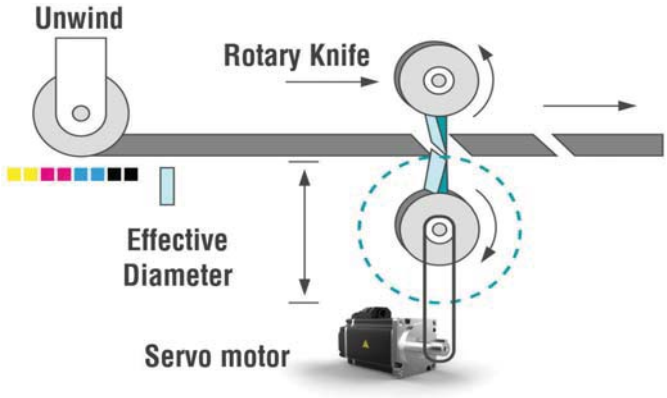
Drive			
UMD-	XXXX	XX	XX
1	2	3	4
Example: UMD-0001B-B5			
1	Product Line	Unitronics Servo Drive	
2	Rated Power	0001 = 100W 0010 = 1kW	
3	Input Voltage	B = 1PH 200-240V CU = 1/3PH 200-240V E = 3PH 380V-480V	
4	Product Series	B5 = CANopen, Pulse E5-S = EtherCAT + STO	

Motor					
UMM-	XXX	X	A	XX	X
1	2	3	4	5	6
Exampl: UMM-0001BAB-B5					
1	Product Line	Unitronics Servo Motor			
2	Rated Power	0001 = 100W 0010 = 1kW			
3	Input voltage	B = 1PH 200V-240V E = 3PH 380V-480V			
4	Encoder	A = Absolute			
5	Brake	None = No Brake B = With Brake			
6	Product Series	B5/B6			

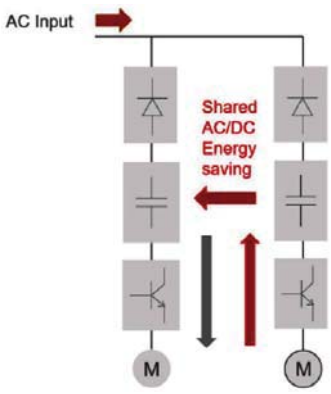
Cables				
UMC-	XXX	XX	X	XX
1	2	3	4	5
Example: UMC-B5A-PN-05, UMC-B5-FA-10				
1	Product Line	Unitronics Servo Cable		
2	Motor Series + Size Range	**For PX (Power Cable):** **B5 Motor Series** B5A = 50W ~ 400W B5B = 750W ~ 1kW B5C6A = 1.5kW ~ 3kW B5D = 4kW ~ 5kW **B6 Motor Series** B5C6A = 850W ~ 1.8kW B6B = 2.9kW B6C = 4.4kW ~ 5kW B6D = 7.5kW **For FA (Encoder Cable):** **B5 Motor Series** B5 = 50W ~ 1kW B56 = 1.5kW ~ 5kW **B6 Motor Series** B56 = For all B6 series		
3	Cable Functionality	PN - Power Cable without Brake PB - Power Cable with Brake FA - Feedback Cable Absolute Encoder		
4	Cable Type	None - Standard Cable R - Robotic Cable		
5	Cable Length	03 / 05 / 10 Meters		

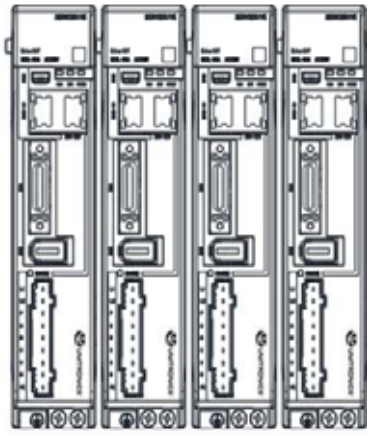
For the full range of Servo Drives & Motors on offer, refer to our website

Touch Probe Function



Save Space & Save Energy - Zero Stacking and Shared AC/DC energy





Servo Drive Model [1]	Voltage	Drive Power (kW)	Servo Drive Dimensions WxHxD (mm)	Suitable Motor [2]	Frame Size (mm)	Rated Motor Current (A)	Peak Current (A)	Rated Motor Torque (NM)	Peak Torque (NM)	Rated Speed (RPM)	Max Speed (RPM)	Encoder Type
UMD-0000B[]5-[]	1-Phase 220V	0.05	40 x 172 x 180	UMM-0000BA[]-B5	40	0.9	3.3	0.159	0.557	3000	7000	Absolute 23 bit
UMD-0001B[]5-[]		0.1	40 x 172 x 180	UMM-0001BA[]-B5	40	1.1	4	0.318	1.11	3000	7000	
UMD-0002B[]5-[]		0.2	40 x 172 x 180	UMM-0002BA[]-B5	60	1.5	5.8	0.318	2.23	3000	7000	
UMD-0004B[]5-[]		0.4	40 x 172 x 180	UMM-0004BA[]-B5	60	2.9	11.5	1.27	4.46	3000	7000	
UMD-0007CU[]5-[]	1/3-Phase 220V	0.75	55 x 172 x 180	UMM-0007CA[]-B5	80	5.1	19.5	2.39	8.37	3000	7000	
UMD-0010CU[]5-[]		1	55 x 172 x 180	UMM-0008CA[]-B6	130	6.8	22.6	5.41	16.2	1500	3000	
				UMM-0010CA[]-B5	80	6.9	21	3.18	9.54	3000	7000	
UMD-0015CU[]5-[]		1.5	70 x 172 x 180	UMM-0013CA[]-B6	130	9.7	29.7	8.28	24.8	1500	3000	
				UMM-0015CA[]-B5	100	9.5	31.6	4.78	14.3	3000	5000	
UMD-0010E[]5-[]	3-Phase 400V	1	60 x 172 x 180	UMM-0008EA[]-B6	130	3.4	10.9	5.41	16.2	1500	3000	Absolute 23 bit
UMD-0015E[]5-[]		1.5	60 x 172 x 180	UMM-0013EA[]-B6	130	5	15.6	8.28	24.8	1500	3000	
				UMM-0015EA[]-B5	100	4.9	16.3	4.78	14.3	3000	5000	
UMD-0020E[]5-[]		2	85 x 172 x 180	UMM-0018EA[]-B6	130	7.1	21.2	11.5	31	1500	3000	
				UMM-0020EA[]-B5	100	6.4	20.5	6.37	19.1	3000	5000	
UMD-0030E[]5-[]		3	85 x 172 x 180	UMM-0029EA[]-B6	180	11.5	37	18.6	55.8	1500	3000	
UMD-0030E[]5-[]				UMM-0030EA[]-B5	130	10.5	33	9.8	29.4	3000	5000	
UMD-0050E[]5-[]		5	90 x 260 x 230	UMM-0040EA[]-B5	130	13	40	12.8	38.4	3000	5000	
				UMM-0044EA[]-B6	180	16.8	49.5	28.4	80	1500	3000	
				UMM-0050EA[]-B5	130	15.9	50	15.9	47.7	3000	5000	
UMD-0075E[]5-[]		7.5	90 x 260 x 230	UMM-0055EA[]-B6	180	20.3	64	35	105	1500	3000	
				UMM-0075EA[]-B6		26.5	70	48	120			

Motor Flange Sizes

Flange sizes in mm

Series	Inertia	Speed	Rated / Max	Volt	50W	100W	200W	400W	750W	1kW	1.5kW	2kW	3kW	4kW	5kW
B5	Low	High	3000/6000 rpm	200V	40	40	60	60	80	80	-	-	-	-	-
			3000/5000 rpm	200V	-	-	-	-	-	-	100	100	130	-	-
				400V	-	-	-	-	-	-	100	100	130	130	130

Series	Inertia	Speed	Rated / Max	Volt	850W	1.3kW	1.8kW	2.9kW	4.4kW	5.5kW	7.5kW
B6	Medium	Medium	1500/3000 rpm	200V	130	130	130	-	-	-	-
				400V	130	130	130	180	180	180	180

Footnotes for Table on Page 48:

All motors are offered with oil seal as standard.

[1] Ordering: Product Numbers:

- CANopen models - include the letter B as shown here: UMD-0000B-B5
- EtherCAT models - include E and S as shown here: UMD-0000B- E5-S

[2] Motors - add the letter B in the square for motor with holding brake eg. UMM-0000BA[]-B5 -> UMM-0000BAB-B5

Unitronics Variable Frequency Drives

High-performance, cost-effective VFDs, ideal for machines & process control

• Simple to Use • Robust • Broad Power & Voltage Range • STO Safe •

B7 Series

Ethernet Support, Functional Safety, and Closed-loop Precision

Optimize your applications with integrated and precise torque, speed, and position control, while reducing your development time.

B7 inverters offer advanced motor control with features typically found in specialized drive solutions. Automatic integration and easy configuration benefits you with faster time to market, reduced development, and commissioning time, while reducing energy costs, gaining flexibility, and increasing productivity.

Main features:

- **Ethernet connectivity:** Integrate seamlessly into modern industrial networks via optional communication card.
- **Built-in STO:** B7 is Functional Safety certified.
- **Broad Power & Voltage Range:**
  380-480V > 1.5kW-500kW
  520-600V > 0.75kW-110kW
- **Closed-loop control:** Position, Speed and Torque: support both constant torque load and variable torque load.
- **Supports:** Multiple motor types including Asynchronous Induction Motors and PM Synchronous motors.
- **Built-in brake unit f**or VFDs of 460V, and 575V.
- **LCD keyboard** paired with a 16-line text + graphics screen including 'Wizard Mode' makes setting parameters a snap.
- **Expandable architecture:** Expansion card slots enable you to adapt B7 to your specific needs. Available cards include communication, PG encoder, and I/O
- **Approvals: UL** & **cUL, CE** and Functional Safety.

Simplified configuration, automatic integration, and freely-provided Ready-Made Motion code reduces development and commissioning time.

UMI- B7 Series: Specification

		B7 Series
Power	Input Voltage	380-480VAC, Three Phase 520-600VAC, Three Phase
	Input Frequency	50/60Hz (47-63Hz)
	Supported Motors	Asynchronous Induction Motors,Permanent Magnet Synchronous
	Output Frequency	0-400Hz
	Overload Capacity	150% 60 seconds, 180% 10 seconds, 200% 1 second
Control	Control Method	SVPWM (Space Vector PWM) VC (Closed loop vector control) SVC (Sensorless Vector Control)
	Control Setting	MODBUS, Analog, Digital, PID, Pulse, variety of communication cards
	Communication	Build in MODBUS RTU RS-485 + optional communication cards (see catalog)
	Keypad	Removable: All power range
Input	Analog Inputs	Total 2: AI1: 0-10V/0-20mA , AI2: -10->10V
	Digital Inputs	4 regular inputs; max.frequency:1kHz; internal impendence:3.3kOhm 2 high-speed inputs ; max frequency:50kHz
Output	Analog Outputs	1 output, AO1:0-10v/0-20mA
	Digital Outputs	Total 2: 1 output sink/source, 1 output 50kHz
	Relay Outputs	Total 2 Programmable Multi-functional outputs
Features	Dynamic Braking unit	Built-in for VFDs of 220V (≤15kW/20HP), 480V (≤30kW/40HP) , and 575V (≤18.5kW/25HP) Optional for VFDs of 220V (18.5-55kW/25-75HP), 480V (37kW/50HP), 575v (22-110kW/30-150HP)
	EMC Filters	For 480V VFDs Built-In C3, Comply with IEC/ 61800-3
	Expansion cards	Max 2 expansion cards for drives ≤5.5kW and max 3 expansion cards for drives ≥7.5kW
General	Operating Temperature	(-10)˚C/14˚F – 50˚C/122˚F (de-rated by 1% for every 1˚C/2˚F above 40˚C/104˚F)
	Enclosure Rating	IP20
	Mounting Options	Wall, floor, flange mounting
	Cooling	Air-cooling
	Safe Torque Off	Yes Integrated STO (SIL2)
	Compliance	CE, UL and cUL

UMI- B7 Series: Product Designation

No	Key	Description
1	Product Line	Unitronics Motion Inverters
2	Power Range	0007:750W/1HP 0022:2.2kW/3HP
3	Power Rating	E: 3PH 380V-440V/480V F: 3PH 520–600V
4	Certification	*U - CE, UL and cUL certified
5	Product series	B7

Product Designation Key				
UMI -	0022	E	U	- B7
(1)	(2)	(3)	(4)	(5)

For the full range of Variable Frequency Drives on offer, refer to our website

UMI- B7 Series: Power Rated Specifications

Model	Rated Output Power (kW)	Rated Output Current (A)	Rated Power Frequency (Hz)	Rated Power Voltage (V)
UMI-0015EU-B7	1.5	3.7	50Hz/60Hz, Allowed range: 47–63Hz	3PH 380–480V
UMI-0022EU-B7	2.2	5		
UMI-0040EU-B7	4	9.5		
UMI-0055EU-B7	5.5	14		
UMI-0075EU-B7	7.5	18.5		
UMI-0110EU-B7	11	25		
UMI-0150EU-B7	15	32		
UMI-0185EU-B7	18.5	38		
UMI-0220EU-B7	22	45		
UMI-0300EU-B7	30	60		
UMI-0370EU-B7	37	75		
UMI-0450EU-B7	45	92		
UMI-0550EU-B7	55	115		
UMI-0750EU-B7	75	150		
UMI-0900EU-B7	90	180		
UMI-1100EU-B7	110	215		
UMI-1320EU-B7	132	260		
UMI-1600EU-B7	160	305		
UMI-1850EU-B7	185	340		
UMI-2000EU-B7	200	380		
UMI-2200EU-B7	220	425		
UMI-2500EU-B7	250	480		
UMI-2800EU-B7	280	530		
UMI-3150EU-B7	315	600		
UMI-3500EU-B7	350	650		
UMI-4000EU-B7	400	720		
UMI-5000EU-B7	500	860		

UMI- B7 Series: Power Rated Specifications

Model	Rated Output Power (kW)	Rated Output Current (A)	Rated power Frequency (Hz)	Rated power Voltage (V)
UMI-0007FU-B7	0.75	2.1	50Hz/60Hz, Allowed range: 47–63Hz	3PH 520–600V
UMI-0015FU-B7	1.5	3.2		
UMI-0022FU-B7	2.2	4.5		
UMI-0040FU-B7	4	6.5		
UMI-0055FU-B7	5.5	9		
UMI-0075FU-B7	7.5	12		
UMI-0110FU-B7	11	16		
UMI-0150FU-B7	15	21		
UMI-0185FU-B7	18.5	27		
UMI-0220FU-B7	22	35		
UMI-0300FU-B7	30	45		
UMI-0370FU-B7	37	52		
UMI-0450FU-B7	45	62		
UMI-0550FU-B7	55	86		
UMI-0750FU-B7	75	98		
UMI-0900FU-B7	90	120		
UMI-1100FU-B7	110	150		

Optional Parts

Part	Description
UMI-S0006	CANopen Communication Card
UMI-S0007	EthernetIP Communication Card
UMI-S0008	EtherCAT Communication Card
UMI-S0009	Modbus TCP Communication Card
UMI-S0010	24V Incremental PG card
UMI-S0011	Multifunction Incremental PG Card
UMI-S0013	Resolver PG card
UMI-S0014	Sin Cos PG card
UMI-S0170	IO Card

Fast. Easy. Cost-effective

Unitronics' One Integrated Solution for Control & Automation offers the best of two worlds: great flexibility in component selection, together with the simplicity of an all-inclusive, time-saving, single-vendor solution.

"I would like to again mention that this was the first time that I have ever written a control or motion control program – but UniLogic is a great programming platform. The environment for Servo operation and programming is intuitive and easy to use. We were concerned that this project would require a great deal of time – but Unitronics really has made Servo motion simple."

Yakir Cohen, Mechanical Engineer at Stratasys

"The simplicity of controlling the VFDs over communication is a winner, for sure. Can't understand why anyone would work differently."

Edi Gulko, Application engineer

"I am happy that I made the change because of the versatility of the software and equipment, service, support, and the lack of licensing costs. It is also very refreshing to me that I have their full support even though I am a small customer. The entire team at Unitronics has been awesome. Thanks to all for the support of our program and venture."

Nils Anderson, an instructor in the Robotics/Mechatronics program at ONC BOCES

- AC Servo Drive & Motor
- Full line of VFDs
- Complete range of controllers
- All-in-One programming software
- IIoT cloud platform: UniCloud

South Africa

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