

VersaPoint Introduction

VersaPoint I/O

The VersaPoint Distributed I/O system provides compact flexibility and allows users to install just the right amount of I/O needed for each application. Adhering to open communications standards including Ethernet, Profibus-DP and DeviceNet™, VersaPoint connects easily to a wide variety of PLCs, DCSs and PC-based control systems. It is ideal for packaging and materials handling applications as well as for supervisory control and data acquisition.

VersaPoint accommodates a series of discrete and analog I/O modules with

densities from 1 to 16 points. It also supports a host of specialized modules, from RTD and Thermocouple inputs to positioning and counter modules.

Its compact design results in space savings up to 50 percent compared to conventional systems. The modules snap quickly and securely onto a DIN-rail, and the integrated I/O terminals and internal power bus help reduce wiring by as much as 80 percent.

Proficiency Machine Edition

Proficiency Machine Edition is an advanced software environment for the development and maintenance of machine level automation. Visualization, motion control, and execution logic are developed with a single programmer.

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Publication Reference Chart

GFK-2134	VersaPoint Motor Starters Manual
GFK-2125	VersaPoint Positioning Modules Manual
GFK-1911	VersaPoint I/O System Profibus-DP NIU
GFK-1912	VersaPoint I/O System DeviceNet NIU User's Manual
GFK-2087	VersaPoint Ethernet NIU (IC220EBI001 and IC220EBI002)



Network Interface Modules

An I/O Network Interface Unit connects VersaPoint I/O modules to a host PLC or computer via a variety of networks, which makes it easy to include VersaPoint I/O in Profibus-DP, Ethernet or DeviceNet installations. Together, the NIU is capable of handling up to 63 modules in one node.

	IC220EBI001	IC220EBI002	IC220PBI002	IC220DBI001
Product Name	Ethernet TCP/IP Advanced Network Interface Unit - 10/100 Base-T(X) - PCP Support	Ethernet TCP/IP Standard Network Interface Unit - 10/100 Base-T(X)	Profibus-DP Network Interface Unit	DeviceNet Network Interface Unit
Protocol	Modbus TCP	Modbus TCP	Profibus DP (V1)	DeviceNet Slave
Data Rate	10/100 Base-T(X)	10/100 Base-T(X)	Up to 12Mbps per second	Up to 500 Kbaud
Serial Communications Support	Yes	No	Yes	Yes
Firmware Upgrade	Yes	No	No	No
Nominal Power Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Power Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC
Current for Local Bus UL	2 Amp	2 Amp	2 Amp	2 Amp
Current for Local Bus UA (ma)	500 mA	500 mA	500 mA	500 mA
Maximum Supported Modules	63	63	63	63
Power In	8 Amp maximum	8 Amp maximum	8 Amp maximum	8 Amp maximum
LED Indicators	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage	Bus diagnostics and status indication of voltage
Numeric LCD Display	Yes	None	None	None
Web Support	Web Pages SNMP XML Data Monitoring	Web Pages SNMP XML Data Monitoring	None	None
Required Terminal Strip	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK201 (Contains 10 strips)
Dimensions (W x H x D)	90mm x 72mm x 116mm (3.543in. x 2.835in. x 4.567in.)	90mm x 72mm x 116mm (3.543in. x 2.835in. x 4.567in.)	91mm x 120mm x 71.5mm (2.874in. x 4.724in. x 2.795in.)	48.8mm x 120mm x 71.5mm (1.92 x 4.72 x 2.82in.)

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Power Terminals

Power Terminal modules supply power to the main circuit (UM). In addition, this module can be used to supply power for a segment circuit (Us).



	IC220PWR001	IC220PWR002	IC220PWR003	IC220PWR101	IC220PWR102
Product Name	Power Terminal 24 VDC	Power Terminal Fused 24 VDC	Power Terminal Fused with Diagnostics 24 VDC	Power Terminal 120 VAC	Power Terminal 230 VAC
Input Voltage	24 VDC	24 VDC	24 VDC	120 VAC	230 VAC
Input Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	108 -135 VAC	12 -253 VAC
Maximum Current	8 Amps	8 Amps	6.3 Amps	8 Amps	8 Amps
Overload/Short Circuit in Segment Circuit	No	Fuse	Fuse	No	No
Surge Voltage/Over Voltage	Yes, suppressor diode for voltage limitation	Yes, suppressor diode for voltage limitation	Yes, suppressor diode for voltage limitation	Yes, VAR 275 VAC	Yes, VAR 275 VAC
Polarity Reversal	Yes, diode connected in parallel as protection against polarity reversal	Yes, diode connected in parallel as protection against polarity reversal	Yes, diode connected in parallel as protection against polarity reversal	N/A	N/A
Current Consumption from Local Bus UL (mA)	N/A	N/A	25mA, maximum	N/A	N/A
LED Indicators	24 VDC Voltage Present	24 VDC Voltage Present and Blown Fuse	Bus Diagnostics and Blown Fuse	120 VAC supply Present	230 VAC supply Present
Required Terminal Strip	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK204	(1) IC220TBK204

Segment Terminals

Segment Terminals are used to create a partial circuit (segment circuit) within a main 24 VDC circuit.



	IC220PWR011	IC220PWR012	IC220PWR013	IC220PWR014
Product Name	Segment Terminal 24 VDC	Segment Terminal Fused 24 VDC	Segment Terminal Fused with Diagnostics 24 VDC	Segment Terminal Electronic Fused 24 VDC
Input Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Input Voltage Range	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC	19.2 - 30 VDC
Maximum Current	8 Amps	8 Amps	6.3 Amps	8 Amps
Overload/Short Circuit in Main Circuit	No	6.3 amp slow blow fuse	6.3 amp slow blow fuse	Electronic Fuse
Surge Voltage/Over Voltage	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal
Polarity Reversal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal	Protective circuits of the power terminal
Current Consumption from Local Bus UL (mA)	N/A	N/A	25 mA, maximum	30 mA, maximum
LED Indicators	24 VDC Voltage Present	24 VDC Voltage Present and Blown Fuse	Bus Diagnostics and Blown Fuse	Bus Diagnostics and Blown Fuse
Required Terminal Strip	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)	(1) IC220TBK087 (Contains 10 strips)

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Discrete Input Modules

Discrete input modules receive signals from input devices such as sensors, pushbuttons, and switches that can have two states: on or off, open or closed.

	IC220MDL641	IC220MDL642	IC220MDL643	IC220MDL644	IC220MDL661
Product Name	Input 24 VDC Positive Logic 2 Points	Input 24 VDC Positive Logic 4 Points	Input 24 VDC Positive Logic 8 Points	Input 24 VDC Positive Logic 16 Points	Input 24 VDC Negative Logic 2 Points
Input Voltage	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC	0 - 30 VDC
Number of Points	2	4	8	16	2
Connection Style	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire
Input Response Time	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.	Less than 1 msec.
On State Current	5 mA	4 mA	5 mA	4 mA	5 mA
Off State Current	0.4 mA	0.4 mA	0.4 mA	0.4 mA	0.4 mA
Current Consumption for Local Bus UL (mA)	35 mA	40 mA	50 mA	60 mA	35mA, maximum
Nominal Current Consumption of US	0.5 amp max	1.0 amp max	2.0 amp max	4.0 amp max	0.5A (2 x 0.25A), maximum
LED Indicators	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs	Bus Diagnostics Status indication of inputs
Required Terminal Strip	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK122 (Contains 10 strips)	(4) IC220TBK082 (Contains 10 strips)	(4) IC220TBK122 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)



Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states.

	IC220MDL751	IC220MDL721	IC220MDL752	IC220MDL753
Product Name	Output 24 VDC Positive Logic 0.5 A 2 Points	Output 24 VDC Positive Logic 2.0 A 2 Points	Output 24 VDC Positive Logic 0.5 A 4 Points	Output 24 VDC Positive Logic 0.5 A 8 Points
Output Voltage	24 VDC	24 VDC	24 VDC	24 VDC
Number of Points	2	2	4	8
Connection Style	2, 3, and 4 wire	2, 3, and 4 wire	2 and 3 wire	2, 3, and 4 wire
Load Current per Point	0.5 A	2.0 A	0.5 A	0.5 A
Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection
Current Consumption from Local Bus UL (mA)	33 mA max.	35 mA max.	44 mA max.	60 mA max.
Nominal Current Consumption of US	1 Amp max	4 Amp max	2 Amp max	4 Amp max
LED Indicators	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs
Required Terminal Strip	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK123 (Contains 10 strips)	(4) IC220TBK082 (Contains 10 strips)

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Discrete Output Modules

Discrete output modules send control signals to devices such as contactors, indicator lamps, and interposing relays that can also have two states.

	IC220MDL754	IC220MDL761	IC220MDL930	IC220MDL940
Product Name	Output 24 VDC Positive Logic 0.5 A 16 Points	Output 24 VDC Negative Logic 0.5 A 2 Points	Output Relay 3.0 A 1 Point	Output Relay 3.0 A 1 Point
Output Voltage	24 VDC	24 VDC	5 - 253 VAC	5 - 253 VAC
Number of Points	16	2	1	4
Connection Style	2 and 3 wire	2, 3, and 4 wire	2 and 3 wire	2 and 3 wire
Load Current per Point	0.5 A	0.5 A	3.0 A	3.0 A
Protection	Electronic Short Circuit, Overload Protection	Electronic Short Circuit, Overload Protection	N/A	N/A
Current Consumption from Local Bus UL (mA)	90 mA max.	32 mA max.	60 mA max.	187 mA max.
Nominal Current Consumption of US	8 Amp max	1 Amp (2 x 0.5A), maximum	N/A	N/A
LED Indicators	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs	Bus Diagnostics Status indication of outputs
Required Terminal Strip	(4) IC220TBK123 (Contains 10 strips)	(1) IC220TBK082 (Contains 10 strips)	(1) IC220TBK085 (Contains 10 strips) Requires Relay Isolation Set (IC220ACC201 and IC220TBK206) if switching voltages are not available in the segment.	(1) IC220TBK085 (Contains 10 strips) Requires Relay Isolation Set (IC220ACC201 and IC220TBK206) if switching voltages are not available in the segment.



Analog Input Modules

Analog input modules receive signals from current and voltage input devices. Specialty modules are available for RTD and Thermocouple inputs.

	IC220ALG220	IC220ALG221	IC220ALG620	IC220ALG630
Product Name	Analog In 15 Bit Voltage/ Current 2 Channels	Analog In 15 Bit Voltage/ Current 8 Channel	Analog In 16 Bit RTD 2 Channels	Analog In 16 Bit Thermocouple 2 Channels
Input Voltage	0 - 20 mA, 4 - 20 mA, ±20 mA, 0 - 10 V, ±10 V	0 - 20 mA, 4 - 20 mA, ±20 mA, 0 - 10 V, ±10 V	RTD PT, Ni, Cu, KTY	Thermocouple B, C, E, J, K, L, N, R, S, T, U, W, HK
Number of Points	2	8	2	2
Connection Style	2 wire, shielded sensor cable	2 wire, shielded sensor cable	2, 3, and 4 wire, shielded sensor cable	2 wire, shielded sensor cable
Converter	120 micro seconds	10 micro seconds	120 micro seconds	120 micro seconds
Module Update Rate	Less than 1.5 msec	Less than 0.8 to 1.3 msec	20 to 30 msec (depending on connection method)	30 msec
Input Resistance	Greater than 220 Kohm (voltage) and 50 ohm (current)	Greater than 240 Kohm (voltage) and 25 ohm (current)	N/A	N/A
Limit Frequency of the Input Filter	40 Hz	3.5 Hz	N/A	48 Hz
Current Consumption for Local Bus UL (mA)	45 mA, typical	48 mA, typical	43 mA, typical	43 mA, typical
Nominal Current Consumption of US	N/A	N/A	N/A	N/A
LED Indicators	Bus Diagnostics	Bus Diagnostics	Bus Diagnostics	Bus Diagnostics
Required Terminal Strip	(1) IC220TBK062 (Contains 5 strips)	(4) IC220TBK062 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)

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Analog Output Modules

Analog output modules provide voltage or current signals to analog output devices.



	IC220ALG320	IC220ALG321	IC220ALG322
Product Name	Analog Out 16 Bit Voltage/Current 1 Channel	Analog Out 16 Bit Voltage 1 Channel	Analog Out 13 Bit Voltage 2 Channels
Output Voltage	0 - 20 mA, 4 - 20 mA, 0 - 10 V	0 - 10 V	0 - 10 V, ± 10 V
Number of Points	8	1	2
Connection Style	2 wire, shielded sensor cable	2 wire, shielded sensor cable	2 wire, shielded sensor cable single ended
Module Update Rate	Less than 1 msec	Less than 1 msec	Less than 1 msec
Output Load	Voltage: 2 k ohm minimum Current: 500 k ohm maximum	2 k ohm minimum	2 k ohm minimum
Current Consumption for Local Bus UL (mA)	30 mA typical, 40 mA maximum	30 mA typical, 40 mA maximum	33 mA typical, 40 mA maximum
Current Consumption from Analog Bus UANA (mA)	50 mA typical, 65 mA maximum	15 mA typical, 20 mA maximum	25 mA typical, 35 mA maximum
Nominal Current Consumption of US	N/A	N/A	N/A
LED Indicators	Bus Diagnostics, I/O Voltage for analog terminals present	Bus Diagnostics	Bus Diagnostics Default state set
Required Terminal Strip	(1) IC220TBK203 (Contains 1 strip)	(1) IC220TBK061 (Contains 5 strips)	(1) IC220TBK062 (Contains 5 strips)



Motion Modules

Motion modules enable the user to easily connect to high speed input devices.

	IC220MDD840	IC220MDD841	IC220MDD842
Product Name	High Speed Counter input, 1 control input, 1 control output	Absolute Encoder input, 4 digital inputs and 4 digital outputs	Incremental Encoder input, 4 digital inputs and 4 digital outputs
Number of Points	1	One SSI Encoder	One A QUAD B
Input Frequency	100Khz	400Khz	Up to 500Khz
Maximum Resolution	N/A	26 bit	26 bit
Number of Inputs	1	4	4
Input Voltage	24 VDC/ 5 VDC	24 VDC	24 VDC
Number of Outputs	1	4	4
Output Voltage	24 VDC, 500mA	24 VDC, 500mA	24 VDC, 500mA
Connection Style	Input: 2 and 3 wire Output: 2 wire	Input: 2 and 3 wire Output: 2 and 3 wire	Input: 2 and 3 wire Output: 2 and 3 wire
Protection	Short Circuit Protection	Short Circuit Protection	Short Circuit Protection
Current Consumption for Local Bus UL (mA)	40 mA typical, 50 mA maximum	60 mA	110 mA
Nominal Current Consumption of US	1.0 Amp maximum	2.0 Amp maximum	2.0 Amp maximum
LED Indicators	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status	Bus Diagnostics, Sensor supply short circuit, Counter input status, Control input status, Output status
Required Terminal Strip	(1) IC220TBK203 (Contains 1 strip)	(1) IC220TBK202 (Contains 1 strip)	(1) IC220TBK202 (Contains 1 strip)

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Motor Starter Modules

VersaPoint motor starter modules enable the user to easily connect directly to three phase motors. The starter control (ON/OFF) and diagnostics is via the VersaPoint bus and no additional I/O modules required. The motor starter modules reduce wiring and installation.

	IC220STR001	IC220STR002	IC220STR003
Product Name	Motor Starter Direct, up to 1.5 kW/ 400 VAC (No UL)	Motor Starter Direct, up to 3.7 kW/ 480 VAC (UL Approved)	Motor Starter Reversing, up to 1.5 kW/ 400 VAC (No UL)
Number of Points	N/A	N/A	N/A
Connection Style	3 - Phase	3 - Phase	3 - Phase
Output Voltage	400 VAC	480 VAC (±10%)	400 VAC
Power Voltage Range	187 VAC to 440 VAC	187 VAC to 519 VAC	187 VAC to 440 VAC
Frequency	50/60Hz	50/60Hz	50/60Hz
Motor Current Range	0.2 to 3.6 A	0.2 to 8.0 A	0.2 to 3.6 A
Protection	Electronic - Configurable Over Current	Electronic - Configurable Over Current	Electronic - Configurable Over Current
Switching Method	Electronic	Mechanical Contactor	Electronic
Current Consumption from Local Bus UL (mA)	45 mA	50 mA	45 mA
LED Indicators	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)	Bus Diagnostics, Motor Protection (group error message), Motor (on/off), Manual Mode (on/off)
Required Terminal Strip	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104	(1) IC220ACC105 (Contains 10 strips) and (1) IC220ACC103 or IC220ACC104



Serial Communications Modules

The serial interface modules enable the VersaPoint to connect to serial devices via RS-232 or RS-485/422. The modules support the following features:

- Serial I/O channel
- Supports various protocols
- Adjustable number of data bits, stop bits, and parity
- 4 kbyte receive buffer, 1 kbyte transmit buffer
- Supports DTR/CTS handshake
- Baud rate adjustable up to 38400 baud
- Configuration and data exchange using PCP communications services.
- LED diagnostic and status indicators

	IC220BEM232	IC220BEM485
Product Name	RS-232 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.	RS-485/422 Communications Module interfaces serial I/O devices to a VersaPoint I/O Station.
Number of Points	1	1
Connection Style	RS-232	RS-485 half duplex/422 full duplex
Protocol	Transparent, End-to-end, Dual buffer, 3964R, XON/XOFF	Transparent, End-to-end, Dual buffer, 3964R, XON/XOFF, Modbus RTU, Modbus ASCII
Data Rate	110, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400	110, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400
Data Buffer	4-kbyte receive buffer and 1-kbyte transmit buffer	4-kbyte receive buffer and 1-kbyte transmit buffer
Current Consumption for Local Bus UL (mA)	155 mA typical, 225 mA maximum	170 mA typical, 260 mA maximum
LED Indicators	Bus Diagnostics, Transmit and Receive	Bus Diagnostics, Transmit and Receive
Required Terminal Strip	IC220TBK203	IC220TBK203

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Accessories

IC220ACC001	Module Labels Narrow, Qty 10
IC220ACC002	Module Labels Wide, Qty 10
IC220ACC003	Point Labels Numbered 1-100, Qty 10
IC220ACC004	Point Labels Blank, Qty 1000
IC220ACC005	Module Keying Tabs, Qty 100
IC220ACC100	Motor Starter Brake Module DC
IC220ACC101	Motor Starter Brake Module AC/DC
IC220ACC103	Motor Starter Power Connector
IC220ACC104	Motor Starter Power Bridge
IC220ACC105	Motor Circuit Connector, Qty 10
IC220ACC201	Relay Module Isolation Set (Requires 1 IC220TBK206)
IC220DEM001	VersaPoint Demo Case, DEVICENET NIU
IC220DEM002	VersaPoint Demo Case, PROFIBUS NIU
IC220DEM011	VersaPoint Static Demo, DEVICENET NIU
IC220DEM012	VersaPoint Static Demo, PROFIBUS NIU
IC220TBK061	I/O W/Shield, 6 Position Spring Style, Qty 5
IC220TBK062	I/O Terminal Strip W/Dual Shield, 6 Position Spring Style, Qty 5
IC220TBK082	I/O Terminal Strip, 8 Position Spring Style, Qty 10
IC220TBK083	I/O Terminal Strip, 8 Position Spring Style, AC Input, Qty 10
IC220TBK084	I/O Terminal Strip, 8 Position Spring Style, AC Output, Qty 10
IC220TBK085	I/O Terminal Strip, 8 Position Spring Style, Relay, Qty 10
IC220TBK087	Power Terminal Strip, 8 Position Spring Style, Qty 10
IC220TBK122	I/O Terminal Strip, 12 Position Spring Style, Input, Qty 10
IC220TBK123	I/O Terminal Strip, 12 Position Spring Style, Output, Qty 10
IC220TBK201	Terminal Strip Set, Spring Style, DEVICENET NIU
IC220TBK202	Terminal Strip Set, Spring Style, Encoder
IC220TBK203	Terminal Strip Set, Spring Style, Analog Out/HSC
IC220TBK204	Terminal Strip Set, Spring Style, AC Power Terminal
IC220TBK206	Terminal Strip Set, Spring Style, Relay Isolation

Configuration Guidelines

When configuring a VersaPoint the following guidelines should be considered:

1. VersaPoint is limited to 63 modules per Network Interface Unit.
2. Each module requires a terminal strip.
3. Each voltage requires a Power Terminal to separate voltages.
4. Segment Terminals can be used to easily group points within a voltage segment.
5. Internal power/current rating of connectors is 2 amps. A power terminal is required if this rating is exceeded.

Cable Selection

Examples of Typical Application

Configuration for Controller (Example application requiring (120) 24 VDC inputs and (80) Relay outputs AC power supply) for local control. System also has five remote cabinets, with each cabinet requiring (8) 24 VDC Inputs, (4) 24 VDC 0.5 Amp, Source Outputs and (2) current inputs and (2) current outputs (24 VDC power source) over Profibus DP.

Control Cabinet

Backplane Slots Required	Power Supply Current Required (mA)	Qty	Part Number	Description
2	1250mA @ 3.3 VDC; 1000mA @ 5 VDC	1	IC695CPU310	CPU with two built-in serial ports
2		1	IC695PSA040	120/240 VAC, 125 VDC Power Supply, current available 9 Amps @ 3.3 VDC; 6 Amps @ 5 VDC; 1.6 Amps @ 24 VDC maximum
	600mA @ 3.3 VDC; 240 mA @ 5 VDC	1	IC695CHS016	16 Slot Universal Base
4	1200mA @ 5V	4	IC694MDL660	Discrete Input Module, 24 VDC Positive Logic, 32 points (Requires terminal block)
5	35mA @ 5V; 110mA @ 24 VDC Relay	5	IC694MDL940	Discrete Output Module, Relay 2.0 A per point Form A, 16 points (Terminal block included).
		4	IC694TBB032	Terminal Block, Box Style
1	420 mA @ 5 VDC	1	IC695PBM300	Profibus DP Master Module
		1	BC646MPP001	Logic Developer - PLC Professional
14	Total current from power supply required: 2895mA @ 5V; 1850 @ 3.3V; 110mA @ 24 VDC Relay . Only one power supplied needed.			

Remote Cabinets (Qty 5)

5	IC220PBI001	PROFIBUS-DP Network Interface Unit (Requires 1 IC220TBK087)
5	IC220MDL643	Input, 24 VDC Positive Logic, 8pt (Requires 4 IC220TBK082)
5	IC220MDL752	Output, 24 VDC Positive Logic 0.5A, 4pt (Requires 1 IC220TBK123)
5	IC220ALG220	Analog In, 15 Bit, Voltage/Current, 2ch (Requires 1 IC220TBK061)
10	IC220ALG320	Analog Out, 16 Bit, Voltage/Current, 1ch (Requires 1 IC220TBK203)
5	IC220PWR003	Power Terminal, Fused with diag 24 VDC Requires 1 IC220TBK087)
1	IC220TBK087	Power Terminal Strip, 8 Position Spring Style, Qty 10
2	IC220TBK082	I/O Terminal Strip, 8 Position Spring Style, Qty 10
1	IC220TBK123	I/O Terminal Strip, 12 Position Spring Style, Output, Qty 10
1	IC220TBK061	I/O Terminal Strip with Shield, 6 Position Spring Style, Qty 5
1	IC220TBK203	Terminal Strip Set, Spring Style, Analog Out/HSC

Options to Consider

840mA @ 3.3 VDC; 614 mA @ 5 VDC	1	IC695ETM001	RX3i Ethernet module 10/100 Mbps 2 RJ45 connections one IP address occupies one slot on system base
	6	IC690PWR024	24 VDC, 5 Amp Output Power and 120/230 VAC Input Power Power Supply
	1	IC693ACC302	RX3i Long term battery for CPU
	1	IC754VSI06STD	QuickPanel View Intermediate 6 inch STN Touch Operator Interface