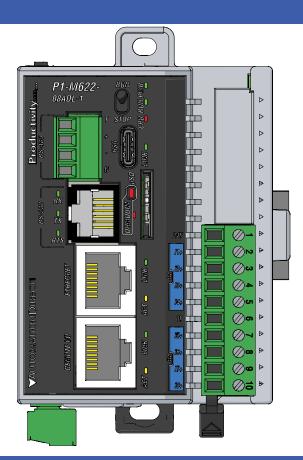
VAUTOMATION DIRECTS Productivity 1000



P1-M622-08ADL-1

The P1-M622-08ADL-1 is a P1000 CPU with eight current sinking channels for converting 0–20 mA analog signals to digital value of 0–8191 (13-bit). This PLC can be used as a stand-alone controller for small applications, or expanded with 4 additional P1000 I/O modules.

CPU Specifications
CPU Status Indicators
CPU Front Panel
Input Specifications
Module Installation Procedure
Wiring Options
Schematic and Wiring Diagrams
RS-232 Specifications
RS-485 Specifications
MicroSD Specifications
Ethernet Specifications
USB-C Specifications
Removable Terminal Block Specifications
General Specifications
Warning

Terminal Block sold separately, (see wiring options on page 4).

CPU Specifications			
User Memory	50MB (Includes program, data and documentation)		
Memory Type	Flash and Battery Backed RA	AM	
Retentive Memory	512KB		
Scan Time	1.9ms (1K Boolean, Max I/C	0)	
External Power Required	24VDC ±2% @ 5W plus 1.2	25 W per additional I/O module	
Protection Circuit	Not built into module – Inst S5601-R, Time Delay, 1A Fi	all protection element such as Edison use	
Communications; 5 Integrated Ports	USB: Programming, Monitoring, Debug, Firmware ETHERNET: (10/100Mbps Ethernet) Programming, Monitoring, Debug, Firmware, Email SMTP Client, Modbus TCP Client (32 Servers) and Server (16 Clients), Ethernet IP Scanner (32 Adapters) and Adapter (4 scanners) with 8 connections per device. Custom Protocol over Ethernet, ProNet, MQTT/MQTTS. REMOTE I/0: 16 GS Drives*, 4 ProtosX TCP couplers, 4 P1-RX remote bases, 1 PS-AMC module RS-232: (RJ12, 1200-115.2k Baud) ASCII, Modbus RS-485: Removable Terminal Included, (1200-115.2k Baud) ASCII, Modbus RTU		
Data Logging	MicroSD card slot		
Hardware Limits of System	Onboard I/O Points: 8 0–20 mA inputs Expansion I/O Point Limit: 64 (4 modules with up to 16 points each)		
Instruction Types	Application Functions Array Functions Counters/Timers Communications Data Handling Drum Sequencers Math Functions	PID Program Control String Functions System Functions Contacts Coils Motion Control	
Real Time Clock Accuracy	±2s per day at typical 25°C ±10s per day maximum at 60°C		

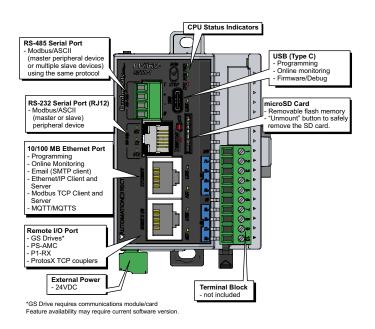
^{*}GS drive requires communication module/ card

	CPU Status Indicators		
PWR	Green LED is illuminated when power is ON		
RUN	Green LED is illuminated when CPU is in RUN mode		
CPU	Red LED is illuminated during power ON reset, power down, or watch-dog time-out		



CPU Run/Stop Switch Specifications			
RUN position Executes user program, run-time edits possible			
STOP position	Does not execute user program, normal program load position		

CPU Front Panel



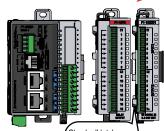
Input Specifications				
Input Channels	8			
Module Signal Input Range	0–20 mA			
Signal Resolution	13-bit			
Resolution Value of LSB (least significant bit)	0–20 mA = 2.44µA per count (1LSB = 1 count)			
Data Range	0–8191 counts			
Input Type	Sinking, Single-ended (1 common)			
Maximum Continuous Overload	±31mA			
Input Impedance	243Ω, ±1%, 1/8W Current Input			
Filter Characteristics	Low Pass, -3dB @ 120Hz			
Sample Duration Time	2ms per channel (does not include ladder scan time)			
All Channel Update Rate	20ms			
Open Circuit Detection Time	Zero reading within 100ms			
Conversion Method	Successive approximation			
Accuracy vs. Temperature	±75PPM / °C maximum			
Maximum Inaccuracy	0.5% of range (including temperature drift)			
Linearity Error (end to end)	±0.037% of range Monotonic with no missing codes			
Input Stability and Repeatability	±0.024% of range			
Maximum Full Scale Calibration Error (Including Offset)	±0.098% of range			
Maximum Offset Calibration Error	±0.098% of range			
Max Crosstalk at DC, 50Hz and 60Hz	±0.049% of range			
Recommended External Fuse	Edison S500-32-R, 0.032 A fuse			
External Power Supply Required	24VDC (-20% / + 25%), 30mA			

Module Installation

WARNING: Do not add or remove modules with

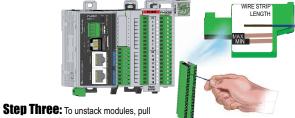
field power applied.

Step One: With latch in "locked" position, align connectors on the side of each module and stack pressing together. Click indicates lock is engaged.



Sten Two: Attach field wiring using the removable terminal block or **ZIP**Link wiring system.

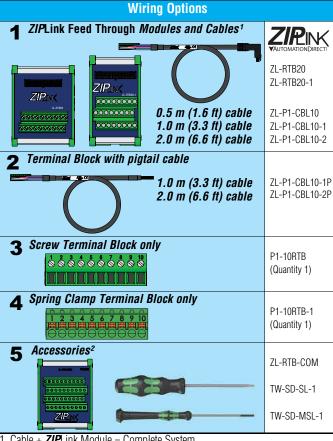
Check all latches are secure after modules are connected



locking latch up into the unlocked position and then pull modules apart.

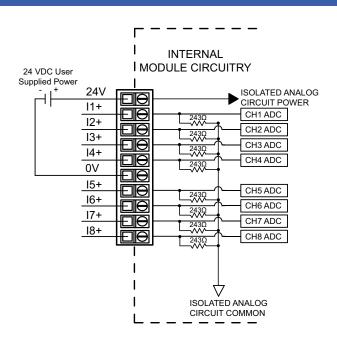






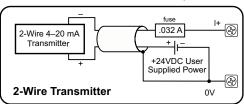
- 1. Cable + **ZIP**Link Module = Complete System
- 2. ZL-RTB-COM provides a common connection point for power or ground

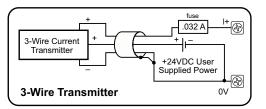
Schematic and Wiring Diagram

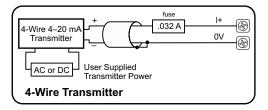


Current Input Circuits

An Edison S500-32-R 0.032 A fast-acting fuse is recommended for current loops.







Note: Do not connect both ends of shield.

Port Specifications

RS-232 Specifications			
Port Name	RS-232		
Description	Non-isolated RS-232 DTE port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD and built-in surge protection		
Data Rates	Selectable,1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200		
+5V Cable Power Source	210mA maximum at 5V, ±5%. Reverse polarity and overload protected		
TXD	RS-232 Transmit output		
RXD	RS-232 Receive input		
RTS	Handshaking output for modem control		
GND	Logic ground		
Maximum Output Load (TXD/RTS)	3kΩ, 1000 pf		
Minimum Output Voltage Swing	±5 V		
Output Short Circuit Protection	±15 mA		
Port Status LED	Green LED is illuminated when active for TXD, RXD and RTS		
Cable Options	EA-MG-PGM-CBL D2-DSCBL USB-RS232-1 with D2-DSCBL FA-CABKIT FA-ISOCON for converting RS-232 to isolated RS-485		



6-pin RJ12 Female Modular Connector

Pin #	Signal		
6	GND	Logic Ground	
5	RTS	RS-232 Output	
4	TXD	RS-232 Output	
3	RXD	RS-232 Input	
2	+5V	210mA Maximum	
1	GND	Logic Ground	

RS-485 Port Specifications			
Port Name	RS-485		
Description	Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active		
Data Rates	Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200		
TXD+/RXD+	RS-485 transceiver high		
TXD-/RXD-	RS-485 transceiver low		
GND	Logic ground		
Input Impedance	19kΩ		
Termination Resistance (TB Jumper Wire "T" to "+")	120Ω. To use, add a jumper between "T" and "+". Resistor is internally connected between "T" and "-'.		
Maximum Load	50 transceivers, 19k Ω each, 60 Ω termination		
Output Short Circuit Protection	± 250mA, thermal shut-down protection		
Electrostatic Discharge Protection	Contact ± 4KV, Air ± 8KV per IEC1000-4-2 Cable is installed for testing		
Electrical Fast Transient Protection	± 1KV per IEC1000-4-4		
Minimum Differential Output Voltage	1.5 V with 60Ω load		
Fail Safe Inputs	Logic high input state if inputs are unconnected		
Maximum Common Mode Voltage	-7.5 V to 12.5 V		
Port Status LED	Green LED illuminated when active for TXD and RXD		
Cable Options	Go to AutomationDirect.com for RS-232 and RS-485 cables		





Pin #	Signal
G	GND
-	TXD-/RXD-
+	TXD+/RXD+
T	TERMINATION

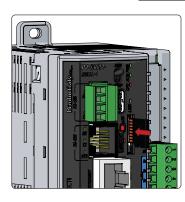
microSD Specifications				
Port Name	microSD			
Description	Standard microSD socket for data logging			
Maximum Card Capacity	32GB SDHC			
_ ,	Mbps	Minimum	Typical	Maximum
Transfer Rate	Read	14.3	14.4	14.6
(Class 4 memory card)*	Write	4.8	4.9	5.1
Port Status LED Green LED is illuminated when card is inserted/detected			erted/detected	

^{*}Supported microSD MICSD-16G



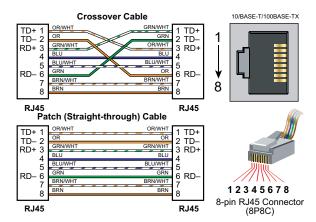
NOTE: Card not included with unit.

Pin	SD
1	DAT2
2	CD/DAT3
3	CMD
4	VDD
5	CLK
6	VSS
7	DAT0
8	DAT1



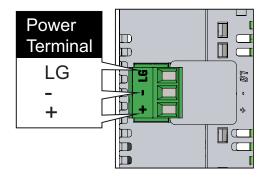
Port Specifications

Ethernet Specifications				
Port Name	ETHERNET	REMOTE I/O		
Description	Standard transformer isolated Ethernet port with built-in surge protection for programming, online monitoring and ethernet communication protocols. See table on page 2 for supported devices and protocols.	Standard transformer isolated Ethernet port with built-in surge protection for connection to supported remote I/O devices. See table on page 2 for supported remote I/O devices.		
Transfer Rate	10 Mbps and 100 Mbps (auto-crossover)			
Port Status LED	LINK (Amber LED) is solid when network LINK is established. ACT (Green LED) flashes when port is active.			



USB-C Specifications				
Port Name	USB-C			
Description	Standard USB-C Slave input for programming and online monitoring and firmware update with built-in surge protection. Not compatible with older full speed USB devices.			
Transfer Rate	480 Mbps			
Port Status LED	Green LED is illuminated when LINK is established to programming software.			
Cables	USB Type A to Micro USB Type C: 6ft cable part # USB-CBL-AC6			

Power Removable Terminal Block Specifications				
Part Number	PCON-KIT			
Number of Positions	3 Screw Terminals			
Pitch	3.5 mm			
Wire Range	28–16 AWG Solid Conductor 28–16 AWG Stranded Conductor			
Screw Driver Width	1/8 in (3.175 mm) Maximum			
Screw Size	M2			
Screw Torque	1.7 lb·in (0.4 N·m)			



Input/Output Removable Terminal Block Specifications					
Part Number	P1-10RTB	P1-10RTB-1			
Positions	10 Screw Terminals	10 Spring Clamp Terminals			
Wire Range	30–16 AWG (0.051–1.31 mm²) Solid / Stranded Conductor 3/64 in (1.2 mm) Insulation Max. 1/4 in (6–7 mm) Strip Length	28–16 AWG (0.081–1.31 mm²) Solid / Stranded Conductor 3/64 in (1.2 mm) Insulation Max. 19/64 in (7–8 mm) Strip Length			
Conductors	"USE COPPER CONDUCTORS, 75°C" or equivalent.				
Screw Driver	0.1 in (2.5 mm) Maximum*				
Screw Size	M2	N/A			
Screw Torque	2.5 lb·in (0.28 N·m)	N/A			

^{*}Recommended Screw Driver TW-SD-MSL-1

General Specifications				
Operating Temperature	0° to 60°C (32° to 140°F)			
Storage Temperature	-20° to 70°C (-4° to 158°F)			
Humidity	5 to 95% (non-condensing)			
Altitude	2,000 meters max			
Pollution Degree	2			
Environmental Air	No corrosive gases permitted			
Vibration	IEC60068-2-6 (Test Fc)			
Shock	IEC60068-2-27 (Test Ea)			
Overvoltage Category	II			
Field to Logic Side Isolation	1800VAC applied for 1 second			
Insulation Resistance	> 10MΩ @ 500VDC			
Heat Dissipation	3W			
Enclosure Type	Open Equipment			
Module Location	Controller in a Productivity1000 System.			
Field Wiring	Removable terminal block (sold separately). Use ZIP Link Wiring System optional See "Wiring Options" on page 4.			
Terminal Type (sold separately)	10-position Removable Terminal Block			
Weight	164g (5.78 oz)			
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada & USA CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*			

^{*}See CE Declaration of Conformance for details.

WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

This publication is based on information that was available at the time it was printed. At AutomationDirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation. This publication may also discuss features that may not be available in certain revisions of the product.

Document Name	Edition/Revision	Date
P1-M622-08ADL-1-DS	1st Edition	5/14/2025

Copyright 2025, AutomationDirect.com Incorporated/All Rights Reserved Worldwide