



Prizm 10



Prizm 12



Prizm 15



Prizm 18



Prizm 20



Prizm 22



Prizm 50



Prizm 120



Prizm 140

### Backlit LCD Operator Interfaces with :

- Text or Graphic Displays with Programmable LED indication and optional Real Time Clock
- Dual Serial Ports for connection to PLC and Printer for printing Alarms and Screens
- Direct connection to PLC programming terminal with support for most PLCs
- Direct connection to Modbus RTU and other open protocols
- Connection possible to multiple PLCs from one Operator Panel
- Support for Floating Point Data format, Recipes and Multiple Data Entry objects per screen
- Allows Local or Global key definitions with Macros for key actions
- Bargraph and Text on same screen. Text can be used for Alarms, Messages or Data Entry
- Common Programming software for the entire Prizm family.....FREE!!
- IP65 design and CE / CSA marked with optional UL certification

# Possible Applications :

Our customers have used Prizm units in various applications across many industries. Typical configuration includes the following:

## 1. Prizm Operator Interface connected to PLC



PLC



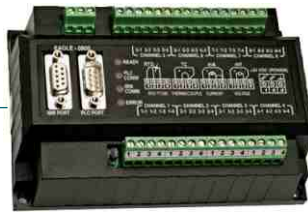
Prizm Operator Panel  
Example: Prizm140 - By Renu Electronics

## 2. Prizm Operator Interface with Analog I/O Module connected to PLC



PLC

Analog In  
(mA,mV, RTD,Thermocouple)



Eagle Analog I/O  
Eagle040  
by Renu Electronics

Analog Out  
(4-20 mA or 0-10VDC)



Prizm Operator Panel  
Example: Prizm140 - By Renu Electronics

## 3. Multiple Prizm Operator Interfaces (Modbus Slaves) connected to one PLC



PLC (Modbus Master)

Modbus Protocol

Modbus Protocol

RS485 network



Node 1



Node n

## 4. Multiple PLCs connected to one Prizm Operator Interfaces



Prizm Operator Interfaces  
Example: Prizm15-By Renu Electronics

PLC 1



Node 1

PLC 2



Node n

# Comparison bet various Prizm Models :

\*EV1/EV2: PLC Port RS232/RS485 selectable

Model	Display	Keys	LED's	Numeric Keys	Dimensions in mm (See Drawing below) (a X b X c) (d X e)		Power	RTC	Part Number	Listing
Prizm10	16 X 2 (Text)	6	2	No	108 X 61 X 21	92 X 45	24 V DC External	N	PZM-10-24-B	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-10-24-Y-B	
							Power from PLC*	N	PZM-10-5-B	
							Power from PLC*	Y	PZM-10-5-Y-B	
Prizm15	16 X 2 (Text)	20	0	Yes	107 X 107 X 26	92 X 92	24 V DC External	N	PZM-15-24-B	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-15-24-Y-B	
							Power from PLC*	N	PZM-15-5-B	
							Power from PLC*	Y	PZM-15-5-Y-B	
Prizm20	16 X 4 (Text)	8	4	No	107 X 107 X 26	92 X 92	24 V DC External	N	PZM-20-24-B	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-20-24-Y-B	
							Power from PLC*	N	PZM-20-5-B	
							Power from PLC*	Y	PZM-20-5-Y-B	

\*EV3: Dual port support; Port 1 and port 2 both configurable as RS232/RS422/RS485, Ladder support and enhanced memory.

Model	Display	Keys	LED's	Numeric Keys	Dimensions in mm (See Drawing below) (a X b X c) (d X e)		Power	RTC	Part Number	Listing
Prizm12	16 X 2 (Text)	8	8	No	108 X 70 X 36	99 X 63	24 V DC External	N	PZM-12-24-B-V3	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-12-24-Y-B-V3	
							Power from PLC*	N	PZM-12-5-B-V3	
							Power from PLC*	Y	PZM-12-5-Y-B-V3	
Prizm18	16 X 2 (Text)	8	10	Yes	108 X 70 X 36	99 X 63	24 V DC External	N	PZM-18-24-B-V3	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-18-24-Y-B-V3	
							Power from PLC*	N	PZM-18-5-B-V3	
							Power from PLC*	Y	PZM-18-5-Y-B-V3	
Prizm22	20 X 4 (Text)	12	4	No	140 X 77 X 35	132 X 69	24 V DC External	N	PZM-22-24-B-V3	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-22-24-Y-B-V3	
							Power from PLC*	N	PZM-22-5-B-V3	
							Power from PLC*	Y	PZM-22-5-Y-B-V3	
Prizm50	20 X 4 (Text)	20	8	Yes	183 X 101 X 37	162 X 79	24 V DC External	N	PZM-50-24-B-V3	CE / CSA UL(Class1 Div2)
							24 V DC External	Y	PZM-50-24-Y-B-V3	
							Power from PLC*	N	PZM-50-5-B-V3	
							Power from PLC*	Y	PZM-50-5-Y-B-V3	
Prizm120	128 X 64 px. (3" Graphical)	4	4	No	136 X 91 X 29	127 X 77	24 V DC External	Y	PZM-120-24-Y-B-V3	CE / CSA UL(Class1 Div2)
Prizm140	128 X 64 px. (3" Graphical)	18	4	Yes	183 X 101 X 37	162 X 79	24 V DC External	Y	PZM-140-24-Y-B-V3	CE / CSA UL(Class1 Div2)

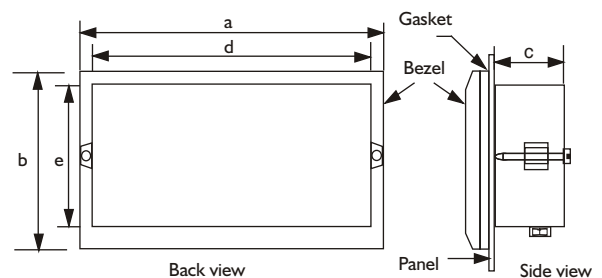
- Some models are also available with Vacuum Fluorescent Display. Contact factory for details.
- Units are also available with Gray case. Replace 'B' by 'G' in unit part number for Gray case.
- For technical specifications, refer to the datasheet or visit our website: [www.renuelectronics.com](http://www.renuelectronics.com) or contact factory.
- \* Please refer to the specifications for power supply details.

## Specifications :

Power	: + 24 V DC + 10%, 3W maximum OR + 5 VDC @ 400mA (MAX.)
Bezel	: IP 65 rated keypad
Operating Temperature	: 0° to 50°C*
Storage Temperature	: -20° to 80°C
Humidity	: 10% to 90% (Non condensing)
Communication	: Two communication ports, EV1-One for connecting to the PLC and one for programming / serial printing. EV3-One for connecting to the PLC and one for programming / serial printing or any other supported Protocol.
Immunity to ESD	: Level 3 as per IEC1000-4-2
Immunity to Transients	: Level 3 as per IEC1000-4-4
Immunity to Radiated RF	: Level 3 as per IEC1000-4-3
Immunity to Conducted RF	: Level 3 as per IEC1000-4-6
Emissions	: EN55011 CISPR A

\* Extended temperature range available. Contact factory for details.

## Dimensions :



All dimensions are in mm..

# Prizm Operations :

Prizm screens can be triggered by the PLC or by the tasks supported in Prizm Software. Various text or graphic objects can be placed on the screen to allow the operator to monitor the machine. Keys are used to navigate through screens or to edit data. A tag database defines the PLC bits / registers used for monitoring or controlling. Bits and registers internal to the unit itself can also be used.

## Tasks

The unit can be configured to execute various tasks at power up and in every scan or when a particular screen is active. Different set of tasks can also be defined when a key is pressed, while it is held down and when a key is released. The list of possible tasks contains powerful commands to navigate through screens, monitor, control and manipulate tags as well.

## Alarms

Up to 256 alarms (16 for text models) can be defined. As the alarms are triggered they are placed in an "alarm container" and can be displayed on the screen. Keys can be defined to acknowledge the alarms and to navigate through alarm list. An acknowledged inactive alarm is taken out of the "alarm container". Alarms can be real time or historical.

## Screens

Screen Tasks can be defined to be executed before showing a screen, while showing a screen and after hiding a screen. Objects such as plain text objects, Data display (coil status, register value, register dependent text), Data entry objects, Alarm objects etc. can be defined on the screen.

## Configuration Software

Prizm units are configured using the Prizm software.

With the Prizm software, the user can configure Prizm settings (for example keypad queue size, float data format, printer port, number of languages supported etc.), Nodes (PLCs to be connected to the unit and the communication settings for the port), Tag database (Prizm local memory tags as well as the PLC bits and registers to be used by the application), Alarms (the registers used to trigger alarms, text for alarms and other alarm settings), Keys (the tasks to be performed when a key is pressed or released) and the Tasks to be performed when the unit powers up as well as global tasks.

Screens are configured as per the desired user interface. Here, the screen objects (text and graphic objects), wizards, reassigning tasks to keys for that particular screen, tasks to be performed when the screen is triggered, while the screen is displayed and when it is replaced with another screen are defined.

After configuring, the application can be saved for future use. This application is then downloaded to the Prizm unit.

# PLCs Supported with Suitable Cables and Part Numbers :

PLC	Port	PZM-XXX-24	PZM-XXX-5	PLC	Port	PZM-XXX-24	PZM-XXX-5
ABB AC 31 Series	RS232	EC-P-036-00	--	Messung XMP8 PLC Series	RS485	EC-P-043-00	EC-I-043-00
ABB AC 70 Series	RS232	EC-P-036A-00	EC-I-036A-00	Messung Nexgen 4000	RS232	EC-P-055-00	EC-I-055-00
AB Micrologix	RS232	EC-P-027A-00	EC-I-027A-00	Messung Nexgen 5000	RS485	-	-
AB SLC 500 (DF1)	RS232	EC-P-027B-00	--	Mitsubishi FX(8 pin con'r)	RS485	EC-P-008A-00	EC-I-008A-00
AB SLC 500 (DH485)	RS485	EC-P-007-00	EC-I-007-00	Mitsubishi FX(25 pin con'r)	RS485	EC-P-008B-00	EC-I-008B-00
Alstom Alspa PLC	RS485	EC-P-045-00	EC-I-045-00	Modbus Slave	RS232 / RS485	EC-P-039-00	EC-I-039-00
Aromat FP0 Series	RS232	EC-P-015A-00	EC-I-015A-00	Modicon Quantum	RS232	EC-P-009A-00	EC-I-009A-00
Aromat FP1	RS485	EC-P-015B-00	EC-I-015B-00	Modicon Micro	RS232	EC-P-009B-00	EC-I-009B-00
Aromat FP3	RS485	EC-P-015C-00	EC-I-015C-00	Omron (Host Link) - 9 pin	RS232	EC-P-006B-00	--
Aromat FP Sigma	RS232	EC-P-015D-00	EC-I-015D-00	Omron (Host Link) - 25 pin	CMOS	EC-P-009C-00	EC-I-009C-00
Aromat FP Sigma	RS485	EC-P-015E-00	--	Samsung SPC 10	RS232	EC-P-056-00	EC-I-056-00
CEGELEC ALSPA	RS485	EC-P-035-00	EC-I-035-00	Samsung N70 Plus	RS232	EC-P-057-00	EC-I-057-00
Crouzet Millenium	RS485	EC-P-009D-00	EC-I-009D-00	Siemens S7-200	RS485	EC-P-029-00	EC-I-029-00
Delta DVP Series	RS232	EC-P-044-00	EC-I-044-00	Spencer PLC	RS232	EC-P-081-00	EC-I-081-00
FATEK PLC	RS232	EC-P-094-00	--	Square D Sy/max	RS232	EC-P-051-00	EC-I-051-00
Fuji Flex	RS485	EC-P-028-00	EC-I-028-00	Taian TP02 Series	RS485	EC-P-041-00	EC-I-041-00
GE 90-30/Versamax(SNP)	RS485	EC-P-002-00	EC-I-002-00	Telemecanique TSX-17	RS485	EC-P-017-00	EC-I-017-00
GE VersaMax, RJ45	RS232	EC-P-002A-00	EC-I-002A-00	Telemecanique TSX-47	RS485	EC-P-017A-00	EC-I-017A-00
GE VersaMax, DB9	RS232	EC-P-002B-00	EC-I-002B-00	Telemecanique TSX-67	RS485	EC-P-017B-00	EC-I-017B-00
IDEC Micro3	RS485	EC-P-025A-00	EC-I-025A-00	Toshiba - Programming Port	RS232	EC-P-003-00	EC-I-003-00
IDEC MicroSmart	RS232	EC-P-025B-00	EC-I-025B-00	Toshiba T1	RS232	EC-P-019A-00	EC-I-019A-00
Jetter nano - B	RS232	EC-P-059-00	EC-I-059-00	Toshiba T2	RS232	EC-P-019B-00	EC-I-019B-00
Keyence KV Series	RS232	EC-P-018-00	EC-I-018-00	Toshiba T1 Series (Link port)	RS485	EC-P-046A-00	--
Koyo DL105/205 / DL05	RS232	EC-P-023-00	EC-I-023-00	Toshiba T2 Series (Link port)	RS485	EC-P-046B-00	--
LG-Master K Series	RS232	EC-P-037-00	EC-I-037-00	Twido	RS485	EC-P-078-00	EC-I-078-00
LG MASTER-K Series	RS485	EC-P-038-0	-	Yaskawa	RS485	EC-P-011-00	EC-I-011-00
LG Master K10S & 10SI PLC	RS232	EC-P-037A-00	EC-I-037A-00	Yokogawa PLC	RS232	EC-P-080-00	--
LG Master 200 S Series	RS232	EC-P-052-00	EC-I-052-00	Yokogawa PLC	RS485	EC-P-080A-00	-

New PLC drivers are constantly added. Please contact factory for more information. We welcome an opportunity to develop new, custom drivers and customized units.



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