Solves-It!

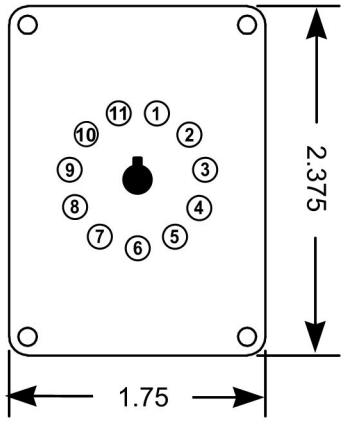
Plug-in PLCs

- Full Featured
- Small Footprint
- Fully Industrialized
- Digital I/O
- 7 Segment LED, Push Buttons Available
- LED Status Indicators
- Analog Input Available
- High Speed Counter
- Real Time Clock Available
- 11-pin Plug-in Construction
- Programs in Ladder Diagram / Function Block

SI-200
Plug-in PLC

The Solves-It! Series of programmable logic controllers provide a new solution where a small, yet versatile logic controller is required. Based on patented PLC on a Chip® technology, the Solves-It! is easy to apply and program using the PC based EZ LADDER Toolkit software. Basic units feature digital I/O and/or a 10VDC differential analog input. Enhanced units add two programmable push buttons, a real time clock with battery back-up, and a four digit numeric display.

The Solves-It! controllers are ideal for small system control and monitor applications, particularly in instances where panel space is limited. Solves-It! mounts in any standard 11-pin octal base and requires only 1.75" of DIN rail space in the panel.



Typical Applications Include:

- Machine Control
- Compressor Control
- Engine Control
- Conveyor Systems
- Water Lift Stations
- Label Machines
- Screen Printers
- Pump Control
- Elevator Control
- Motor Control
- Valve Control

Ordering Information: (See Specifications*)

Model	Description
SI-100	Solves-It! with 4 Sourcing Inputs, 4 Sourcing Outputs (500mA* Max), 8-32VDC*
SI-101	Solves-It! with 4 Sinking Inputs, 4 Sinking Outputs (500mA* Max), 8-32VDC*
SI-110	Solves-It! Analog with 4 Dual Function I/O (Input or Output), 2 Dedicated Outputs (I/O operate Sinking as Inputs, Sourcing as Outputs), 1 Analog Input, 2 Potentiometers
SI-200	Solves-It! with 4 Sourcing Inputs, 4 Sourcing Outputs (500mA* Max), 8-32VDC*, 4 Digit Numeric Display, 2 Push Buttons, Real Time Clock
SI-201	Solves-It! with 4 Sinking Inputs, 4 Sinking Outputs (500mA* Max), 8-32VDC*, 4 Digit Numeric Display, 2 Push Buttons, Real Time Clock
SI-210	Solves-It! Analog with 4 Dual Function I/O (Input or Output), 2 Dedicated Outputs (I/O operate Sinking as Inputs, Sourcing as Outputs), 1 Analog Input, 2 Potentiometers, 4 Digit Numeric Display, 2 Push Buttons, Real Time Clock

* Rev 2.0 Hardware. Shown. Rev 1.0 hardware has different features/specifications, refer to the Rev 1.0 and Rev 2.0 Manuals for details.

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Divelbiss CORPORATION

Solves-It!

Plug-in PLCs

Solves-It! PLC Specifications* / Features (Rev 2.0 Hardware Shown, refer to Manuals for Rev 1.0 Hardware Specs)						
Feature / Specification	**SI-100**	**SI-101**	**SI-110**	**SI-200**	**SI-201**	**SI-210**
Processor / Memory / EEPROM	M-Series PLC on a Chip™, 512 Bytes RAM, 64K Flash / 128 Bytes EEPROM					
Retentive Memory	None			90 Bytes		
Programming	Ladder Diagram / Function Block					
Digital I/O						
Digital Inputs[1][2]	Qty 4, 8-32VDC, Sourcing	Qty 4, 8-32VDC, Sinking	4 Multi-Function I/O operate as Digital Input or Digital Output (program selected). As Inputs - Sinking, 8-32VDC	Qty 4, 8-32VDC, Sourcing	Qty 4, 8-32VDC, Sinking	4 Multi-Function I/O operate as Digital Input or Digital Output (program selected). As Inputs - Sinking, 8-32VDC
High Speed Counter	Qty 1, Uses Digital Input GPI1, Count Up, 25KHz Max. 8-32VDC Sourcing	Qty 1, Uses Digital Input GPI1, Count Up, 25KHz Max. 8-32VDC Sinking	Qty 1, Uses Digital Input GPIO3, Count Up, 25KHz Max. 8-32VDC Sinking	Qty 1, Uses Digital Input GPI1, Count Up, 25KHz Max. 8-32VDC Sourcing	Qty 1, Uses Digital Input GPI1, Count Up, 25KHz Max. 8-32VDC Sinking	Qty 1, Uses Digital Input GPIO3, Count Up, 25KHz Max. 8-32VDC Sinking
Digital Outputs[2]	Total Qty 4, Sourcing, Solid-State, 8-32VDC, 500mA Max Per Point. Output Voltage = Input Voltage	Total Qty 4, Sinking, Solid-State, 8-32VDC, 500mA Max Per Point. Output Voltage = Input Voltage	Total of 6 possible. 2 Dedicated Outputs 4 Multi-Function I/O operate as Digital Input or Digital Output (program selected). As (All) Outputs - Sourcing, 8-32VDC, Solid-State, 500mA Max Per Point. Output Voltage = Input Voltage	Total Qty 4, Sourcing, Solid-State, 8-32VDC, 500mA Max Per Point. Output Voltage = Input Voltage	Total Qty 4, Sinking, Solid-State, 8-32VDC, 500mA Max Per Point. Output Voltage = Input Voltage	Total of 6 possible. 2 Dedicated Outputs 4 Multi-Function I/O operate as Digital Input or Digital Output (program selected). As (All) Outputs - Sourcing, 8-32VDC, Solid-State, 500mA Max Per Point. Output Voltage = Input Voltage
Analog I/O						
Analog Inputs	None	None	1 External 0-10VDC, 2 Internal Potentiometer	None	None	1 External 0-10VDC, 2 Internal Potentiometer
User Interface						
Programmable LED Indicators	Qty 4	Qty 4	Qty 1	Qty 4	Qty 4	Qty 1
Status LED Indicators	Status x 1	Status x 1	Status x 1, GPO5	Status x 1	Status x 1	Status x 1, GPO5
LED Display	None	None	None	4 Digit, Numeric LED Display, Programmable	4 Digit, Numeric LED Display, Programmable	4 Digit, Numeric LED Display, Programmable
Push Buttons	None	None	None	2, Programmable	2, Programmable	2, Programmable
Communications						
Serial Ports	1 Programming, RS232	1 Programming, RS232	1 Programming, RS232	1 Programming, RS232	1 Programming, RS232	1 Programming, RS232
Other						
Input Power	8-32VDC	8-32VDC	8-32VDC	8-32VDC	8-32VDC	8-32VDC
Real Time Clock	None	None	None	Yes, Time of Day, Day, Month, Year, Day of Week	Yes, Time of Day, Day, Month, Year, Day of Week	Yes, Time of Day, Day, Month, Year, Day of Week
Style / Mounting	Plastic Housing, Plugs into 11 Pin Octal Socket	Plastic Housing, Plugs into 11 Pin Octal Socket	Plastic Housing, Plugs into 11 Pin Octal Socket	Plastic Housing, Plugs into 11 Pin Octal Socket	Plastic Housing, Plugs into 11 Pin Octal Socket	Plastic Housing, Plugs into 11 Pin Octal Socket
Dimensions	1.75" L x 2.4" W x 4.2" H	1.75" L x 2.4" W x 4.2" H	1.75" L x 2.4" W x 4.2" H	1.75" L x 2.4" W x 4.2" H	1.75" L x 2.4" W x 4.2" H	1.75" L x 2.4" W x 4.2" H
Operating Temperature	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C

1: Total Digital Inputs. Counter Input uses GPIx input and reduces total number.
2. Multi-function I/O operate as either digital inputs or digital outputs. Total number of multi-function I/O is 4. I/O only operates as one or the other.

Optional Hardware Add-ons/Accessories:

Model #	Description
SI-PGM	Serial Programming Cable
115-105328	DIN / Panel mount screw 11-pin terminal socket.
EZLDCD-01	EZ LADDER Toolkit Development Software on USB Flash Drive (Free with Controller Purchase)
SK-100	Starter Kit with Solves-It! SI-100, Programming Cable & Socket
SK-101	Starter Kit with Solves-It! SI-101, Programming Cable & Socket
SK-110	Starter Kit with Solves-It! SI-110, Programming Cable & Socket
SK-200	Starter Kit with Solves-It! SI-200, Programming Cable & Socket
SK-201	Starter Kit with Solves-It! SI-201, Programming Cable & Socket
SK-210	Starter Kit with Solves-It! SI-210, Programming Cable & Socket
SI-DEMO-01	Solves-It! Trainer / Simulator for SI-100, SI-200
SI-DEMO-02	Solves-It! Trainer / Simulator for SI-110, SI-210

Programming the Controller

The Solves-It! Plug-in PLCs program in Ladder Diagram using the Divelbiss EZ LADDER® Toolkit, a Ladder Diagram Development Platform. EZ LADDER software parallels the IEC-61131 standard and provides an easy to use interface.

After a ladder diagram program is developed, it can be downloaded to the Solves-It! via the programming port. The program is stored on non-volatile FLASH memory and is automatically executed on power up. Once the download is complete, the Solves-It! is successfully programmed and begins executing the program.

Refer to the EZ LADDER Toolkit's User Manual for more detail on creating ladder diagram programs, connecting to targets and downloading the program to targets.

All Solves-It! User Manuals and the EZ LADDER Toolkit can be downloaded from http://www.divelbiss.com.

Specifications are subject to change without notice.