

Description of Option:

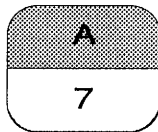
This option allows the iPLC-1 Controller to function as a stand-alone controller in press applications. The additional features of the iPLC with this option are:

- Expanded number of programs from 4 to 8.
- Inputs to select the running program from a remote location.
- Separate Automatic Advances on Limits 1 through 8 for speed compensation.
- Position data outputs. Data is available in BCD Format with an update time of 12.8 mSec. Outputs also include a 'Data Valid' output that is active when the outputs are changing or during a transducer fault condition.

Keyboard Changes and Additions



This key is still used to enter and exit program mode, but 8 programs are available instead of the standard four.



This key programs the Auto Advances for Limits 1 through 8. Maximum advance is 511 mSec with 1 mSec resolution.

Programming Changes and Additions

Except for the examples below, programming a iPLC-1-42 is identical to programming a standard iPLC Controller.

In all of the following examples, the iPLC-1~~4~~2 Controller must be in Program Mode. Refer to Sections 12.1 or Section 12.3 of the iPLC Manual.

Limit Switch Programming

Programming the Limit Switches is identical to the standard iPLC-1. The display for Limits 1 through 8 is different from the standard iPLC-1. The caret, '^' between the From and To setpoints is a visual reminder that the Limit is advanced.

Additional Instructions: iPLC-1-42

Programming Changes and Additions (cont'd)

Auto Advances

You want to advance Limit 1 by 35 mSec and Limit 3 by 129 mSec. All other limits are left with the default advance of 0 mSec, (No advance).

PRESS	DISPLAY	COMMENTS
[A]	"ADW,1 000"	Default Advance of 0 mSec.
[0,3,5], [ENTER]	"ADW,1 035"	Programmed Advance of 35 mSec.
[A], [FUNCTION], [A]	"ADW,3 000"	Default Advance of 0 mSec.
[1,2,9], [ENTER]	"ADW,3 129"	Programmed Advance of 129 mSec.

Remote Program Select Operation

In order to safeguard against unexpected operation the iPLC-1-42 responds to program select inputs in the following manner:

- 1) The program select inputs are disabled if the iPLC-1-42 is in Program Mode.
- 2) If a remote input is active, the running program cannot be changed from the keyboard. However, you can still enter Program Mode.



WARNING Activate only one program select input at a time. Activating two or more inputs at one time will usually load the wrong program into memory.

Power-up Sequence

- 1) If a remote input is active on power-up, the iPLC-1-42 loads the selected program into memory.
- 2) If all program select inputs are inactive, the iPLC-1-42 loads the last program selected by the *keyboard*. Note that this may not be the last program running when was disrupted if the last program was selected with the remote inputs.

Position Data Output

Position data is output in 12 bit BCD format. The position data has an update time of 12.8 mSec. There is also a "Data Valid" output that is active under the following conditions:

- 1) The iPLC-1-42 is updating the position data.
- 2) There is a transducer fault condition.

Therefore, the Data Valid output should also be read with the position data to determine the validity of the data. When there is a transducer fault, position data is set to zero.

Hardware Connections

Connections for Position Data Outputs and the Program Select Inputs are made through the J1 40 pin I/O Connector found on the bottom of the iPLC-1-42 Controller. A pinout table is given below. These outputs can be Sinking, Sourcing, or TTL compatible as specified in the complete part number. Connections for the 16 Limits are made through J5 40 pin I/O Connector found on the top of the iPLC-1-42 Controller. These outputs are always Open Collector Sinking. See Print B1012, iPLC Manual page 26 for the pinout of the J5 Connector. It is identical to the 'J1 Connector' pinout on Print B1012.

PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Input 2	11	NC	21	/OE	31	Bit 10
2	Input 3	12	Input 5	22	NC	32	NC
3	Input 1	13	NC	23	NC	33	Bit 8
4	Input 4	14	Vn	24	NC	34	NC
5	NC	15	Bit 200	25	Bit 80	35	Bit 4
6	Input 8	16	GND	26	NC	36	NC
7	Bit 800	17	Bit 100	27	Bit 40	37	Bit 2
8	Input 7	18	NC	28	NC	38	MD
9	Bit 400	19	Data Valid	29	Bit 20	39	Bit 1
10	Input 6	20	NC	30	NC	40	NC

Note:

NC - No Connection

MD - Motion Detector Output.

/OE - Output Enable. Must be grounded for normal operation.

Vn - Internal unregulated +12 Vdc Supply on units with Sinking and TTL outputs. Can be used as a logic "1" supply for the inputs. Connection for external +5 to +50 Vdc supply for Sourcing output units.

GND - Ground Connection. WARNING: This point is also internally tied to chassis ground.

An input is energized when it is connected to a voltage source between 3 and 15 Vdc. An input is de-energized when it is floating (no connection) or connected to a voltage source between 0 and 1 Vdc.

Isolation Relays should be used between the Controller and the external circuitry that activates the inputs. This will prevent Ground Loops in the system and protect the iPLC-1-42 if any high voltages are applied. An internal +12 Vdc supply that can be used to energize the inputs is available from the iPLC-1-42 under the following conditions:

- The iPLC-1-42 must have Sinking or TTL compatible Outputs for Position Data. Sourcing Output Controllers do not have an accessible 12 volt supply.
- An IM-1 Interface Module, IRB-1 Input Relay Board, or RB-1 Solid State Output Relay board must be used in the system.

All other system configurations require an external supply with an output voltage between 5 and 15 Vdc. (12 Vdc supply recommended.)

Additional Instructions: iPLC-1-42

Hardware Connections (cont'd)

The following table lists the pinout assignments of the input pins and voltage sources.

	J1 Conn.	IM-1	RB-1	MRB-1
Input 1	Pin 3	Pin 3	Pin 1 - TB7	Pin 1 - TB8
Input 2	Pin 1	Pin 1	Pin 2 - TB7	Pin 2 - TB8
Input 3	Pin 2	Pin 2	Pin 3 - TB7	Pin 3 - TB8
Input 4	Pin 4	Pin 4	Pin 4 - TB7	Pin 4 - TB8
Input 5	Pin 12	Pin 12	Pin 5 - TB7	Pin 5 - TB8
Input 6	Pin 10	Pin 10	Pin 6 - TB7	Pin 6 - TB8
Input 7	Pin 8	Pin 8	Pin 7 - TB7	Pin 7 - TB8
Input 8	Pin 6	Pin 6	Pin 8 - TB7	Pin 8 - TB8
GND*	Pin 16	Pin 16	Pin 9 - TB7	Pin 9 - TB8
+ 12Vdc	Pin 14	Pin 14	Pin 10 - TB7	External only

GND - Ground Connection. WARNING: This point is also internally tied to chassis ground.

Model Number and Checksum

A controller with this option displays the following model number and checksum:

Model #: IPLC1-42,1

Checksum: D6C7