

OPTION BL with 24 outputs
STOP TIME MONITOR and LIMIT PROGRAM DISABLE
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DESCRIPTION OF OPTION:

This option provides two different functions. The first function measures and displays the stopping time of the press on every Stop cycle. A warning and a fault output are available that signals when the stopping time of the press exceeds pre-programmed values. The programmable values for the Stop warning and Stop fault outputs can have any value between 0.055 and 0.999 seconds.

The second function is a remote input that, when active, disables the programming of limits 1 through 4 .

OUTPUT CONFIGURATIONS:

The Stop Time Monitor function dedicates 2 outputs for its operation. These outputs are Limit Switches 23 and 24. LS23 is the Stop Warning output, and LS24 is the Stop Fault output. This leaves 22 outputs available for normal Limit Switches. An external input relay must be used and attached to IN 2 of the Relay Board.

With this unit, a separate input, Input 3, is available for the Limit Program Disable function.

The Stop Warning and Stop Fault outputs are Normally Active and switch off when there is a fault condition. If power is cut-off to the unit, all outputs switch off, therefore, loosing power to the controller will look like a Stop fault.

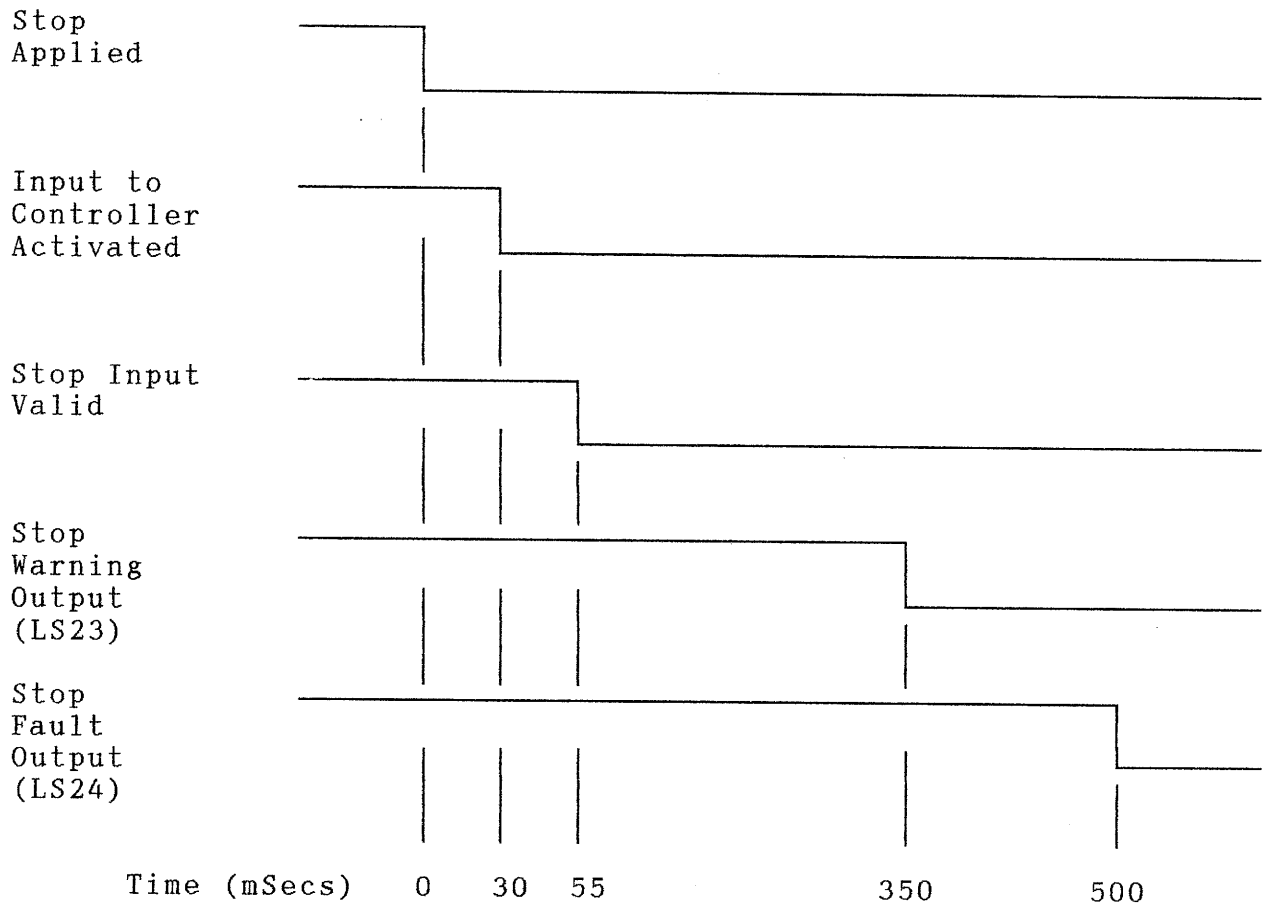
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TIMING DIAGRAM:

The timing diagram below shows the relationships between the "Stop Applied" input and the warning and fault outputs.

In this example, the Stop Warning output will become inactive 350 mSecs after the controller senses that the Stop has been applied. The STOP Fault output will become inactive 500 mSecs after the controller senses that the Stop has been activated.

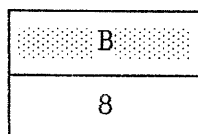
The controller determines the Stop Time by sensing the lack of change in the position of the transducer shaft.



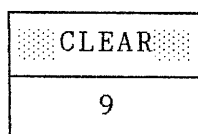
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PROGRAMMING CHANGES AND ADDITIONS:

The following Keys are used to program and access the Stop Monitor Function.



[B] Key: This key is used to display the stopping time of the press from 0.055 to 9.999 Seconds. When in Program Mode, the key is used to program the time setpoints for the Stop Warning and Fault Outputs.



[CLEAR] Key: When in Program Mode, this key is used to reset the Stop Warning and Stop Fault outputs (LS23 & LS24) after they are tripped by a fault condition. In the case of a Stop Fault, this key also clears the error message on the controllers display.

PROGRAMMING EXAMPLE:

You want to program a Stop Time Warning limit to 350 mSecs and a Stop Time Fault limit to 500 mSecs.

PRESS	DISPLAY	COMMENTS
<hr/>		
*		Must be in Program Mode. See Section 12.1 of the Users Manual.
[FUNCTION]		Function LED "on".
[B]	"S.TIME x.xxx"	Stop time of press. If display is "STOP FAULT", refer to the next section.
[B]	"ST.WRN 0.xxx"	Stop Warning setpoint.
[3,5,0], [ENTER]	"ST.WRN 0.230"	LS23 will de-activate when the stop time exceeds 350 mSecs.
[B]	"ST.LIM 0.xxx"	Stop Fault setpoint.
[5,0,0], [ENTER]	"ST.LIM 0.500"	LS24 will de-activate when the stop time exceeds 500 mSec.

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FAULT CLEARING:

If the stopping time of the transducer exceeds the Stop Warning setpoint, LS23 will de-activate. The unit will not display a fault message and the unit will continue to operate.

If the stopping time of the transducer exceeds the Stop Fault setpoint, LS24 will also de-activate. If the unit's display is showing the stopping time of the transducer, the display will change to "STOP FAULT". If the unit is showing any other function, such as POS/TACH, the unit will not display the fault message until the operator changes the display to the Press Stopping Time by using the [B] Key.

The following Keystrokes will clear a Stop Warning - Stop Fault error:

PRESS	DISPLAY	COMMENTS
*		Must be in Program Mode. See Section 12.1 of the Users Manual.
[FUNCTION]		Function LED "on".
[B]	"S.TIME x.xxx" or " STOP FAULT "	Stop Warning Error. or Stop Fault Error.
[CLEAR]	"S.TIME x.xxx"	Stopping error Cleared. Both outputs re-activated. Unit displaying Stop time if Stop Time < 9.999 Seconds.

MODEL NUMBER AND CHECKSUM:

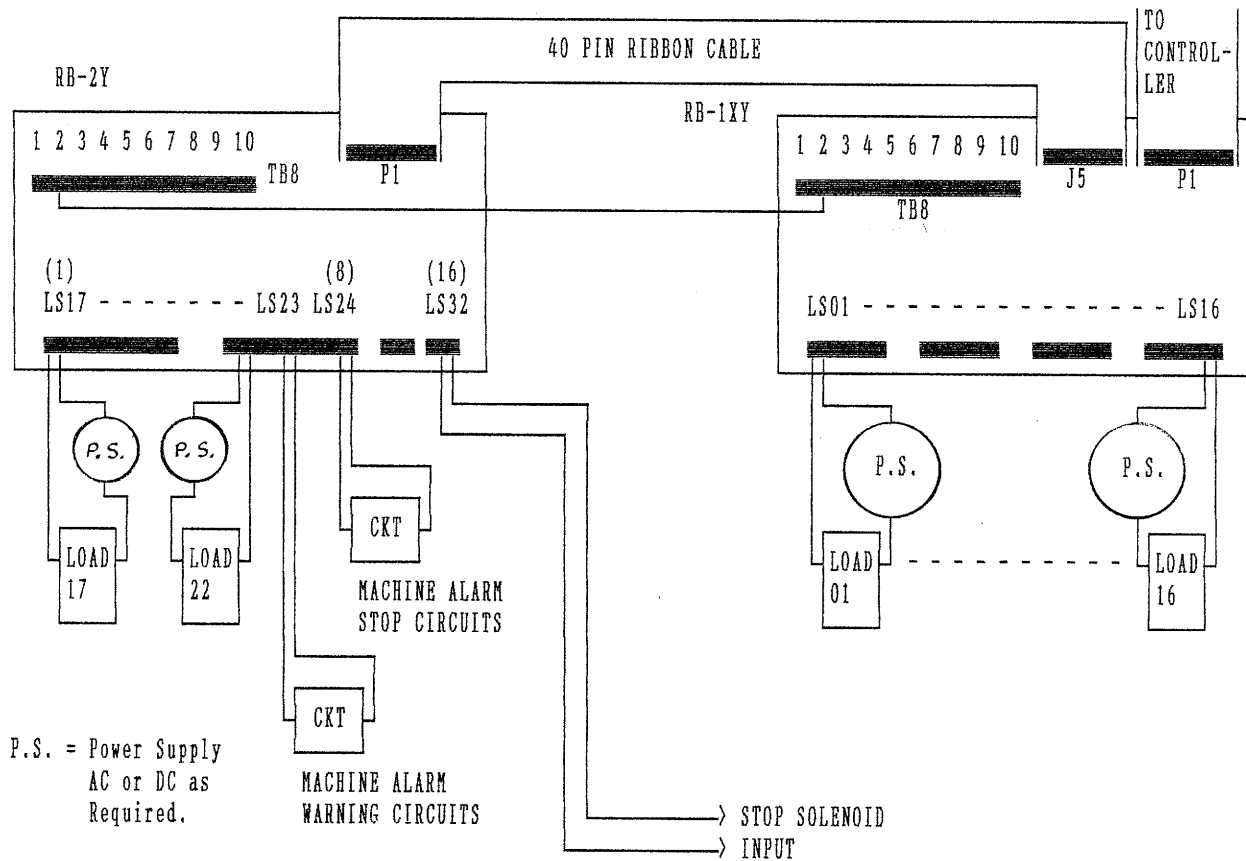
The following keystrokes will display the Model Number and Checksum of an IPLC1 unit with an Option BL.

PRESS	DISPLAY	COMMENTS
[PROGRAM]	"PROGRAM x"	x = Number of running program.
[NEXT]	"IPLC1-3BL,2"	Model and Rev. #
[NEXT]	"EPROM CFC3"	Software Checksum

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TYPICAL SOLID STATE RELAY BOARD CONNECTIONS:

An iPLC1-3BL has a total of 24 outputs. Because of this, two relay boards are needed. The first is a RB-1XY ("X" adds a second 40-pin connector for the second relay board, "Y" adds a terminal block for the two inputs) and the second is a RB-2Y. A RB-2Y has LS16 reconfigured as an input. The terminal block is needed to run a wire between Pin 2 of the two connectors. This will bring the stop time input into the iPLC-3BL controller. If Input 3 is used to disable programming of the first four Limits, it's input should be brought to the terminal block on the RB-1XY.



Output Relays	
KA-1	12-140 Vac @ 3A
KA-2	24-280 Vac @ 3A
KD-1	4 - 60 Vdc @ 3A
KD-2	4 -200 Vdc @ 1A

Input Relays	
KIA-1	90-140 Vac/dc
KID-1	5 - 60 Vdc